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## WESTERN IRRIGATION AGRICULTURE.

## FIELD NOTES.

## Umatilla.

During the week ending June 5, the maximum temperature was 90, minimum temperature 42, and greatest daily range 39.

Irrigation and cultivation of the various fields was continued. Owing to a number of minor improvements in the distribution system the irrigation water is much more easily handled this season than previously. The regular work in soil moisture re-determinations was continued.

Project Manager, H. D. Newell and I. D. O'Donnell, Supervisor of Irrigation of the Reclamation Service visited the Farm and inspected the various experiments. Greatest interest centered upon the soil moisture and duty of water investigations, and the variety test of forage crops, and the pronounced success of the Western Yellow and Scotch pine trees in the nursery plat.

During the week ending June 12, the maximum temperature was 89, minimum temperature 49, and greatest daily range 31.

Heavy winds during the week caused some soil erosion and exerted a detrimental influence upon tender crops. Alfalfa that is properly supplied with moisture is growing rapidly.

During the week ending June 19, the maximum temperature was 87, minimum temperature 50, and greatest daily range 31.

The east half of field A3 was regraded and seeded to grain sorghums, two varieties in a test planned to throw some light upon the proper depth for planting the seed of these crops. A portion of the plats of the variety tests of field peas was cut for yield determinations.

## Truckee-Carson.

During the week ending June 19, the maximum temperature was 87, minimum temperature 39, and no precipitation.

Plats C-2 and 3 were seeded to Japanese millet and Brown Corn millet. Plats E-4-5-3 and G-3-4 and 5 were seeded to sweet clover.

The weeds along the ditch banks were mowed. A grasshopper catcher made according to specifications, in Utah State Bulletin No. 138, was tried out on the farm of C. H. Hancock. It worked



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Field Notes.

## Truckee-Carson (continued)

very well but it was thought some improvements could be made by introducing slight changes. A "hopperdozer" was also constructed but this has not been tried out. In some sections of the project the grasshoppers are so thick as to seriously threaten the second crop of alfalfa.

The electric motor and pump were brought from the drainage sump to the wheel which furnishes water for the buildings and lawns, and will replace the gasoline engine and pump which has been used heretofore. The gasoline engine will be used in threshing grain varieties.

## Belle Fourche.

During the week ending June 26, the maximum temperature was 84, minimum temperature 44, and precipitation .08 inch.

The stacking of the alfalfa was started on the 23rd and the weather has been very favorable since that date. All the alfalfa on the grounds and in Fields A and I and some from Field K is in the stack. All the alfalfa on the farm excepting a couple of small plats has been mowed and what is not in the stack, is cocked ready to haul.

All the cultivated plats in Field A and P have been hoed and all the potatoes and corn in Field P and about half of those crops in Field A have been cultivated.

The blocking of the beets in Field A and P was finished and a few plats in A have been thinned.

The following table shows the yields of the alfalfa in the irrigated rotations in Field A.



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## Belle Fourche (continued)

Rot. No.	Plat No.	Lbs. per Plat	Tons per Acre	Height at Maturity inches	Age of Plat Years
8	I-51	440	.88	17.0	4
40	I-1	(b) 550	1.10	21.5	2
42	I-5	690	1.38	21.5	2
44	III-19	460	.92	17.0	2
44	III-22	230	.46	14.0	1
48	II-19	544	1.08	21.0	2
48	II-22	600	1.20	24.0	1
60	I-10	576	1.14	20.0	2
60	I-11	494	.98	19.0	3
61	II-14	560	1.12	18.0	2
61	II-15	486	.96	18.0	3
62	II-8	644	1.28	19.0	2
62	II-9	584	1.16	19.0	3
65	III-13	350	.70	15.0	1
65	III-14	540	1.08	17.5	2
65	(a)				3
69	II-32	546	1.08	20.0	3
69	II-33	496	.98	19.0	3
69	(a)				3
Maximum		690	1.38	24.0	
Minimum		230	.46	14.0	
Average		517.0	1.03	18.8	

Average, one year old, 3 plats..... .79

Average two year old, 8 plats.....1.14

Average three year old, 5 plats.....1.03

Average four years old, 1 plat..... .88

(a) Hogged. (b) This plat was damaged last fall by seepage water from the ditch, so that one corner is completely bare.

In the above table it is of interest to note that the yields of the plats that were sown in the oat stubble last summer after the grain was removed. The plats sown in this manner are III-22, Rotation 44; II-22, Rotation 48; and III-13, Rotation 65. In plat II-22 there was some volunteer alfalfa from previous years which probably accounts for the very high yield, but even without the volunteer alfalfa the yield would have been high for the first year.



3 July, 1915.

WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

Huntley.

During the week ending June 26, the maximum temperature was 87, minimum temperature 41, and precipitation .12 inch.

The past week has been very favorable for farm work. Alfalfa was hauled in from A-III and IV and from fields C and K. Sweet clover and alfalfa were cut on the Worden tract. The thinning and cultivating of corn have been completed. Beets in C-IV and in field K have been cultivated. The following are the yields of alfalfa in the irrigated rotations in field K:

Plat No.	Rot. No.	Tons per Acre	Date Seeded
K-II-5	67	2.96	1914
III-5	61	3.12	1914 man.
III-6	61	2.97	1913
III-11	60	2.99	1914
III-12	60	2.50	1913
IV-3	40	2.26	1914
IV-9	42	2.78	1914
IV-13	44	2.27	1914
IV-22	8	1.62	Cont.

An Assistant State Veterinarian has been inspecting dairy cattle in this vicinity for tuberculosis. Since April 15, he has inspected between 800 and 900 head. Of these 16 have been found to be tubercular, 15 head of which have been shipped in from outside the State.

Weights of hogs on Alfalfa in Rotation 67,  
Field K for last two periods.

Dates	No. of Days	Initial Weight	Final Weight	Gain for period	Gain per day	Lbs. pork per A per D	Amount grain fed, lbs.
6/4							
6/14	10	740	810	70	7.0	17.5	185.0
6/14-							
6/24	10	810	826	16	1.6	4.0	202.5

Weights for last two periods for one hog  
being finished on 3% corn in dry lot.

6/4-6/14	10	198	210.5	12.5	1.25		86.6
6/14-6/24	10	210.5	226.	15.5	1.55		92.09



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## WESTERN IRRIGATION AGRICULTURE

## FIELD NOTES.

Yuma.

During the week ending June 19, the maximum temperature was 108, minimum 51, and greatest daily range 48.

Several plats of alfalfa were harvested, also the first cutting of earliest planted Sudan Grass on field D-13.

Gravel was hauled and a second concrete inverted siphon culvert was completed on the north farm road across the lateral between the D and E series.

Durango cotton progeny plantings on C-38 were thinned.

The latest potatoes were harvested from the variety test in Field A. Yields secured in this test are shown in the table below. All the potatoes were planted January 28, except Early Ohio #1403, which was planted February 1.

Variety	Date Har- vested	Yield per acre		Per cent Unmarket- able, Potatoes	Row Length (Feet)	Area Acres
		Market- able, Bushels	Total Yield Bushels			
Quick Lunch	5-21	97.3	125.7	22.75	408	.0281
Irish Cobbler	5-28	123.5	143.8	14.08	371	.0255
Early Ohio	6-3	89.0	112.5	20.805	952	.0655
Triumph	6-9*	62.7	85.8	26.885	294	.0202
Harvest King	6-11*	54.6	98.1	44.30	735	.0506
Triumph (1402)	6-17	24.7	51.2	51.69	1340	.0923
Early Ohio (1403)	6-17	35.5	55.4	35.88	1206	.083

\*Mature on June 3.

As shown in the table, Irish Cobbler and Quick Lunch produced the highest yields. Both varieties are desirable types for market. Triumph and Harvest King, while grown under similar conditions on two different plats, vary in yield. The plat producing the best, had produced alfalfa and had also been heavily manured. The other plat had been planted to a date nursery, to which no fertilizer had been applied. The potatoes on the first plat were smooth and well formed; while on the second they were scabby, small and irregular in shape.

Messrs. Geo. M. Rommel and H. M. Lamon of the Bureau of Animal Industry visited the station and Yuma Project June 20 and 21.



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## WESTERN IRRIGATION AGRICULTURE.

Field Notes.

Belle Fourche.

During the week ending July 3, the maximum temperature was 81, minimum temperature 41, and precipitation .74 inch.

During the week the mowing of the alfalfa was finished and most of the stacking was done, when a rain came Tuesday night and stopped operations for the rest of the week.

The thinning of the beets in Field A was finished and that in Field P was started.

The variety test corn, the corn in the rate of seeding test, and the corn in the dry land rotations was thinned,

The following table shows the first crop of alfalfa in the method and time of seeding experiment, started in 1914, in Fields A-II and A-III.

Plat No.	Seeded	Method of Seeding	Yield, Tons per Acre	Height at Maturity (inches)
A-II-37	5/8	Without nurse crop, early	1.20	20.0
-38	6/11	" " " " , late	1.28	21.0
-39	5/8	Nurse crop of wheat cut for hay	1.58	24.5
-40	5/8	" " " " " " grain	1.26	21.0
-41	5/8	Without nurse crop, early	1.48	21.5
-42	6/11	" " " " , late	1.36	20.0
-43	6/11	Rows 21 inches apart	1.16	24.5
-44	5/8	Nurse crop of wheat cut for hay	1.30	21.0
-45	5/8	" " " " " " grain	1.00	20.0
-46	6/11	Rows 21 inches apart	.68	22.0
-49	5/8	Nurse crop of oats cut for grain	.56	18.5
-50	5/8	" " " barley " " "	.88	18.0
-51	5/8	" " " flax " " "	1.28	18.5
-52	5/8	Without nurse crop, early	1.04	17.0
A-III-46	5/8	Nurse crop of oats cut for grain	.72	17.5
-47	5/8	" " " barley " " "	.72	18.0
-48	5/8	" " " flax " " "	1.10	18.0
Maximum		.....	1.58	24.5
Minimum		.....	.56	17.0
Average		.....	1.09	20.0



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WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

Belle Fourche (continued)

Tons per Acre.

Average of 3 plats without nurse crop, sown May 8 (early)...	1.24
Average of 2 plats without nurse crop, sown June 11 (late)...	1.32
Average 2 plats with nurse crop of wheat cut for hay.....	1.44
Average 2 plats with nurse crop of wheat cut for grain.....	1.13
Average 2 plats in rows 21 inches apart.....	.92
Average 2 plats with nurse crop of oats.....	.64
Average 2 plats with nurse crop of barley.....	.80
Average 2 plats with nurse crop of flax.....	1.19

The above figures show very little difference in plats sown late and those sown early in the spring.

There was some difference in yield in favor of cutting the nurse crop of wheat for hay. This difference, however, was not enough to make up the difference in value of the wheat crop harvested for hay and that harvested for grain.

Seeding alfalfa in rows did not give as good yields as seeding in the ordinary manner.

Of the nurse crop (cut for grain) used in this experiment, flax gave the best results, followed by wheat, barley, and oats.

The table below shows the first crop yields of alfalfa in the method and time of seeding experiment, started in 1913 in Field A-III.

Plat No.	Seeded	Method of Seeding	Yield, Tons per Acre	Height at Maturity (inches)
A-III-33	5/9	Without nurse crop, early.....	1.16	20.0
-34	6/5	" " " , late.....	1.10	20.0
-35	6/5	Rows 21 inches apart.....	.86	22.0
-36	5/9	Nurse crop cut for hay.....	.64	17.0
-37	5/9	" " " " grain.....	.68	17.0
-38	5/9	Without nurse crop, early ....	.70	17.5
-39	5/9	" " " , late.....	.78	17.0
-40	6/5	Rows 21 inches apart.....	.80	21.0
-41	5/9	Nurse crop cut for hay.....	.84	17.0
-42	5/9	" " " " grain.....	.90	18.5
-43	5/9	Without nurse crop, early.....	.92	17.0
-44	6/5	" " " , late ....	1.12	19.0
-45	6/5	Rows 21 inches apart.....	.84	22.0
Maximum		.....	1.16	22.0
Minimum		.....	.64	17.0
Average		.....	.87	17.3



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## WESTERN IRRIGATION AGRICULTURE.

Field Notes.

## Belle Fourche (continued)

	<u>Tons per Acre.</u>
Average of 3 plats without nurse crop, sown May 9, early...	.92
Average of 2 plats without nurse crop, sown June 5, late...	1.00
Average of 3 plats in rows 21 inches apart.....	.83
Average of 2 plats with nurse crop cut for hay.....	.74
Average of 2 plats with nurse crop cut for grain.....	.79

It is seen again in this table that there was little difference in the alfalfa plats sown early and those sown later in the spring. The total yield in 1913 was .16 of a ton in favor of early seeding.

The yield of the alfalfa seeded in rows was low, as it was in the field seeded in 1914.

There was practically no difference in the yields of the plats where wheat was harvested for hay and where it was harvested for grain.

The first crop yields of alfalfa in the rate-of-seeding experiment seeded in 1914, in Field I, were as follows:

Plat No.	Rate of seed- ing, pounds per acre	Tons per acre	Height at Maturity (inches)	Stand, plants per acre
1	2.5	1.26	24.0	102,000
2	3.0	1.60	24.0	118,000
3	4.5	1.60	24.0	129,000
4	6.0	2.10	24.0	148,000
5	8.0	1.80	25.0	143,000
6	10.0	2.24	25.0	149,000
7	11.5	2.36	26.0	189,000
8	13.0	2.20	26.5	193,000
9	15.0	2.10	26.5	184,000
10	16.5	2.10	26.0	197,000
11	18.5	2.10	26.0	180,000
12	20.5	2.40	26.0	199,000
13	22.5	1.90	26.0	176,000
14	25.0	2.10	26.5	224,000
Maximum		2.40	26.5	224,000
Minimum		1.26	24.0	102,000
Average		1.99	25.3	166,500



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## WESTERN IRRIGATION AGRICULTURE.

Field Notes.

## Belle Fourche (continued)

As shown in the preceding table, there was a general, but not consistent, increase in yield as the rate of seeding increased, up to 11.5 pounds per acre.

The height at maturity varied only 2.5 inches and the plats showing greatest height were those which were seeded more thickly.

In the following table, showing the yields of the plats in the experiment started in 1913, it will be seen that there seems to be no relation between the yield and the rate of seeding. The same inconsistency was noted in the yields of the plats in this experiment in 1914.

As shown in the following table, the height at maturity varied from 16 to 22.5 inches and, contrary to the results of the experiment started in 1914, the greatest height occurred where a smaller amount of seed was sown.

First crop yields of alfalfa in the rate-of-seeding-experiment seeded in 1913 in Field I.

Plat No.	Rate of seed- ing, pounds per acre	Tons per acre	Height at Maturity (inches)	Stand, plants per acre
1	2.5	1.40	22.5	97,000
2	3.0	1.00	22.5	98,000
3	4.5	1.10	22.0	102,000
4	6.0	.90	22.0	143,000
5	8.0	1.20	21.0	147,000
6	10.0	1.16	21.0	159,000
7	11.5	.90	20.0	196,000
8	13.0	1.10	20.5	194,000
9	15.0	1.04	20.0	222,000
10	16.5	1.18	18.0	234,000
11	18.5	1.00	17.0	243,000
12	20.5	.88	16.0	258,000
13	22.5	.94	16.0	263,000
14	25.0	1.46	16.0	307,000
Maximum		1.46	22.5	307,000
Minimum		.88	16.0	97,000
Average		1.09	19.6	190,200



10 July, 1915.

## DEMONSTRATIONS ON RECLAMATION PROJECTS.

## FIELD CONFERENCE.

A conference was held in Salt Lake City, Utah, on June 24, 25 and 26, 1915, for the purpose of discussing problems connected with the establishment of agricultural industries on the reclamation projects. The conference was attended by the chief and all the fieldmen of the Office of Demonstrations on Reclamation Projects, the chief of the Office of Western Irrigation Agriculture and five field station superintendents, and representatives of the Dairy Division and Animal Husbandry Division of the Bureau of Animal Industry.

The stenographic report of the proceedings will be mimeographed and copies will be sent to those who attended the meetings.

## Minidoka.

Mr. Rinehart has recently published an article in the local papers on the Minidoka project relating to contagious abortion in cattle. The article discusses the behavior of this disease and concludes with the following statements:

"Unfortunately there is no direct cure. The last report from the Bureau of Animal Industry states that all cures are still in the experimental stage and that our main reliance must still be placed on the careful and repeated disinfection of premises and animals.

"The following rules are condensed from the instructions issued by the Bureau of Animal Industry:

1. Remove the aborting cows to separate quarters where they can receive appropriate treatment.
2. Remove any other cows that shown signs of aborting.
3. Burn all litter contaminated by the aborting cows.
4. Thoroughly disinfect the barn.
5. Before and after breeding disinfect the bull with a solution of 1/2 per cent. of liquor cresolis compositus; lysol; trikresol; or a 1 per cent. solution of creolin or carbolic acid, or one part of potassium permanganate to 1000 parts of warm water.
6. Treat the cows that have aborted with the same solution recommended for the bull until the discharge ceases.
7. Do not breed the aborting cows for at least two months after aborting."



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DEMONSTRATIONS ON RECLAMATION PROJECTS.

FIELD NOTES.

Huntley.

Mr. Christopher reports that there has been no spread of hog cholera during the past two weeks. All of the hogs which have been vaccinated are doing well, no new cases have developed in the herd which was vaccinated. In another herd, where two hogs were sick but where no action was taken further than to isolate the sick animals, no new cases have developed and the sick hogs are recovering.



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## ABSENCE FROM FIELD HEADQUARTERS.

Recently there has been some difficulty in getting into communication with field men during their absence from headquarters. It is frequently necessary to communicate quickly with the field men, either to secure information from them or to give them important information.

It is requested that hereafter, when a field man in either office is to be absent from his headquarters for more than 24 hours, he telegraph the Washington office regarding his itinerary, stating specifically where telegrams or letters should be sent to him on each day of his absence from field headquarters. In some instances, it may be more practicable for the fieldman to arrange to have telegrams forwarded to him from his headquarters. In such instances, such arrangements should always be made.

F.D.F.

## WESTERN IRRIGATION AGRICULTURE.

## Truckee-Carson.

Plats H 8-9-11 were leveled and seeded to sweet clover.

A grasshopper catcher, made according to specifications given in bulletin number 138 of the Utah Experiment Station, has been used on private farms with good results. It catches the hoppers alive and they can be sacked and used for feed for poultry and hogs. One of the standard hopperdozers was also constructed but this does not seem to be so satisfactory to the farmers, partly because the hoppers are covered with kerosene and are not suitable for food.

For some reason the pigs in the pasture experiment have made smaller gains each succeeding week. The reason for this is not clear, but may be due to the drinking of water containing a rather high percentage of soluble salts. An analysis of the water showed soluble salts as follows:-

Sodium carbonate.....	.015 %
Sodium bicarbonate.....	.103 %
Sodium chlorid.....	.101 %
Sodium sulphate.....	.151 %
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Total by titration....	.370 %



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WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

## Truckee-Carson (continued)

Hereafter irrigation water which is low in salt content will be used. The average per cent daily gain during the fifth period was 0.65 and during the sixth period, 0.24. During the last named period the pigs did not pay for the feed consumed. The following table shows the results to date.

	Initial Weight, lbs.	Final Weight, lbs.	Total Gain, lbs.	Daily Gain, lbs.	% Daily Gain	Barley Fed, lbs.	Cost of Barley @ 1-1/2	Value of Gain @ 7 ¢	Net ret, for 1/4 acre of pasture
Fifth Period - June 12 to 19 - 7 days.									
5 Durocs	275.0	285.5	10.5	1.50	0.54	38.4	.58	\$0.74	\$0.16
5 Berk- shires	201.0	212.5	11.5	1.64	0.79	28.1	.42	0.80	0.38
10 Pigs	476.0	498.0	22.0	3.14	0.65	66.6	1.00	1.54	0.54
Sixth Period - June 19 to 26 - 7 days.									
5 Durocs	285.5	289.0	3.5	.50	0.17	40.0	.60	.25	-.35
5 Bkshir	212.5	217.5	5.0	.71	0.33	29.7	.45	.35	-.10
10 Pigs	498.0	506.5	8.5	1.21	0.24	69.7	1.05	.60	-.45
All Periods - May 16 to June 26 - 41 days.									
5 Durocs	244.0	289.0	65.0	1.59	0.62	209.3	3.14	4.55	1.41
5 Bkshir	166.0	217.5	51.5	1.25	0.66	154.8	2.32	3.61	1.29
10 Pigs	390.0	506.5	116.5	2.84	0.64	363.8	5.46	8.16	\$2.70

## Unatilla

During the week ending June 26, the maximum temperature was 94, minimum temperature 45, and precipitation .02 inch.

The work of the Farm for this week was devoted to irrigation and the continuation of the soil moisture observations with some hoeing of weeds.

Continued dry winds have caused the loss of large areas of wheat in the neighboring districts.



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WESTER IRRIGATION AGRICULTURE.  
Field Notes.

## Umatilla (continued)

During the week ending July 3, the maximum temperature was 100, minimum temperature 46, and greatest daily range 44.

The second crop of alfalfa was harvested on field A1, B1, and C1.

The variety test of peas was harvested ready to be threshed, but have been lost as a result of being blown away by a severe wind storm which occurred about eight o'clock Saturday night, July 3. This wind uprooted many trees, eroded the soil badly and did serious damage to fruit and wheat crops by shaking off the fruit and shattering wheat in fields that are mature.

## San Antonio.

The maximum temperature for the week ending July 3 was 102 and the minimum 74. Precipitation none.

One man spent a part of the week going over the various orchards, summer pruning the trees. The Johnson grass and weeds around the tanks was cut the early part of the week. A part of C4 which was previously in oats was plowed.

Work was commenced on a septic tank for the office and laboratory. Carpenters and plumbers have been working several days putting in closets and rearranging the water system and constructing a dark room. It is expected that City water will be piped out here soon.

The remaining two acres of land recently donated to the government has been cleared.

On Monday the Agricultural class from the teachers summer school visited the station.

## Scottsbluff.

During the week ending July 3, three men were employed irrigating; four men were busy irrigating a portion of the time. All of the crops on the Farm excepting corn, potatoes and flax were irrigated.

The alfalfa is making splendid growth since water was applied, and indications are that a full cutting will be secured. Many of the farmers delayed the first cutting, irrigating before cutting the



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WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

## Scottsbluff (continued)

first crop. Indications at the present time are that those who have cut the alfalfa and irrigated afterwards will be ahead at the end of the season.

practically all of the small grains are headed out, and will require no more irrigation this season.

A few warm days during the week have had a wonderful effect on the growth of the corn. Everyone is now hopin for a good corn crop this fall.

During the week ending July 10, the men were employed cleaning up roads and rougusing grain. It was found that there was considerable barley in most of the oats plats.

The sweet clover is making good growth now. A fence is being built wround this plat and the cows will be turned onto it.

The potatoes are making good growth. At this time the potatoes grown from immature seed are far ahead, in vine growth, of any of the others. As soon as all the potatoes come into flower, comparisons will be made as to size of the tubers from the various seed stock plantings.

All the grain is well headed out. Much of it is lodged, but not badly enough to affect the maturing of the grain.

The Farm picnic will be held on the 14th.

## Belle Fourche.

During the week ending July 10, the maximum temperature was 83, minimum temperature 42, and precipitation .86 inch.

Hauling of the first cutting of alfalfa was completed. The field ditches in Fields A, I, and K were finished and alfalfa and small grains will be irrigated at once. The balance of the time was used in cleaning up weeds, roads and alleys.

The Commercial Club at Newell, has made arrangements for a Farmer's Picnic, July 24, at the Experiment Farm.

Mr. Mathews and Mr. Marting left July 10 for the Mandan meeting and Mr. Wentz left July 11 to visit the Scottsbluff Experiment Farm.



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## DEMONSTRATIONS ON RECLAMATION PROJECTS.

## FIELD NOTES.

## Shoshone.

During the week ending June 19, six farms were visited, four men called at the office, and milk was tested for four farmers.

Cow testing is being systemetized. Whenever a man wants his cows tested, he is asked to weigh the milk for the milkings from which the tests are taken and these tests along with age, breed, date of dropping last calf, date of breeding and feed, are kept as permanent reccrds for those cows.

Thereis much complaint among the farmers regarding seed potatoes rotting in the ground. It is thought that this is due to the cold rainy weather. On many of the farms the fruit trees are not doing well. A great many trees have died and many trees which are alive are making very little growth.

There is some complaint now of lice in hogs. The kerosene emulsion and the Kreso dip is recommended.

The latter part of the week was spent with Mr. Jones on the North Platte Project.

The first part of the week ending July 3, was spent at the Agricultural College at Laramie, looking over the state farm and conferring with those in charge.

During the week five farms were visited, five men called at the office, and cows were tested for one man. Of the cows tested one gave during the month of June 18.6 pounds butter fat, one gave 22.8 pounds, and one gave 25.8 pounds. They are living entirely on the open range.

The cooperative creamery has just started buying cream from the two stores in Garland, a small town on the edge of the Project. This is not working very satisfactorily yet, because the cream is not delivered in good condition at the creamery. The merchants who præviously bought the cream, paying cash and the centralizer at Billings did the same. The farmers at Garland do not like to wait two weeks for the cream check from the cooperative creamery.

One of the local merchants has taken the agency for an alfalfa inoculating material and will try to sell it to some of the farmers to inoculate seed which is to be sown on fields which have never been in alfalfa before.



17 July, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

Minidoka.

Mr. E. F. Rinehart reports the following for the week ending July 3.

Favorable reports are being made on the use of the special pasture mixtures on the live stock farms. Mr. Phillips of Rupert has one such pasture. This consists of five acres divided into three lots. The stock is kept on one lot for seven days when they are transferred, the lot irrigated and then let stand for fourteen days. As the five acres are now carrying seventeen head of cattle it is necessary to feed hay in racks night and morning. The cattle are milking shorthorns, some of them being very good individuals. They are reported as being very profitable, the calves all being sold as yearlings at from \$40.00 to \$61.00 per head (butcher's prices). The butter fat production is not known but a seven day record is now being made. This will be repeated in seven or eight months.

Seven calls to investigate sickness in hogs were received this week. Because the calls were widely scattered and came in close together, Dr. Henderson came up from Twin Falls to help with the work. Cholera was found to be present in a herd belonging to Mr. Jack Schultz, near Starr's Ferry, just across the river from where the outbreak occurred two weeks ago. In a herd of 56, seven died, one was killed for diagnosis and the remaining forty-eight vaccinated. Thirty-four rings (denoting high temperatures) were used. The vaccination was done by Drs. Henderson and Davis of the Twin Falls office.

On the dry farming section adjacent to the Project the spring grain is burning up and unless there is rain within a very few days the crop will be a total failure. The rains of May were of little if any benefit as the soil baked and the moisture escaped. In the same section the fall sown grain is looking well and will mature without further rainfall. The condition of the grain is of much interest to the farmers of the Project as many depend upon this source for the grain to finish their hogs. As the grain can be paid for by exchanging alfalfa hay it can be obtained by the poorest farmers. Some project farmers now have considerable grain paid for by hay furnished last winter and this summer, the grain to be delivered at threshing time.

Butter fat is now selling at 19 cents. Hogs are \$6.30 with a few well finished lots going at \$6.60. Heavy hogs are a cent a pound less. Wool sales are slow, much of the fine wool still being on the owner's hands with occasionally a sale at 22 to 23 cents. The long wool is practically all sold, most of it changing hands at 23-1/2 cents. Seven double deck cars of lambs recently shipped were sold in Omaha for \$9.75.



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## DEMONSTRATIONS ON RECLAMATION PROJECTS.

Field Notes.

## Minidoka (continued)

The shipment contained 80% of a range outfit's crop of lambs. They were taken close, many of the smaller inferior lambs being put in. The entire lot weighed in at 58 pounds. Buyers are contracting for September delivery lambs at from \$3.25 to \$3.50 per head with the privilege of a ten per cent cut.

## North Platte.

On Monday of the week ending June 12, a call was received from W. T. Evans, Mitchell, to come out and hold post-mortem examination on a sow that had died. Impaction due to eating an excess of sand and dirt was the cause of the death. This is the second sow in this herd to die from this trouble during the last two months. It was recommended that a more liberal supply of salt and other minerals be supplied the herd.

In the Dutch Flatts district, hog feeding demonstrations were arranged for with Messrs. Lambertson, Marson and Woodman. In Mr. Lambertson's feeding demonstration, 40 Poland China spring pigs will be used. They will graze on a 7-acre alfalfa pasture and receive a ration of about 2% corn. After the barley crop becomes available, ground barley will be substituted for corn. The average age of shoats used in demonstration is 10 weeks and the average weight 41 pounds. This herd will be weighed once each month. The weighing will be done with the special weighing outfit used in the demonstration work.

In Mr. Larson's hog feeding demonstration about 70 last summer's shoats will be used. In this case, the 70 shoats will be fattened with corn fed in a self-feeder while running on alfalfa pasture. This demonstration will start July 15th.

In the Woodman demonstration, 2 spring farrowed, Duroc Jersey shoats will be used. Ration to consist of alfalfa pasture, corn and skim milk.

Arrangements were also made for conducting a demonstration on the farm of J. McCoy. This demonstration will be very similar to the Larson demonstration. Forty-five last summer's Duroc Jersey pigs will be fattened with corn fed in a self-feeder on alfalfa pasture.



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## DEMONSTRATION ON RECLAMATION PROJECTS.

Field Notes.

## North Platte (continued)

During the week ending June 19, three bunches of spring shoats were weighed for the purpose of conducting feeding demonstrations this summer. All will have access to alfalfa pasture and receive an additional ration of about 2% corn in two cases, and 2% corn and shorts in one case. In Mr. Will Evans' herd, there are 94 Duroc Jersey spring pigs, with an average age of two months and 9 days, and an average weight of 22.7 pounds. The time required to weigh the 94 pigs was 45 minutes. The special weighing outfit was used.

Preliminary arrangements have been made with Mr. Mulligan, of Henry, for carrying on a hog feeding demonstration in which about 500 last summers pigs will "hog down" 90 acres of corn. These 500 hogs will be weighed when turned onto the corn field, and the gains will be determined. After these hogs are fattened and sold, about 500 spring pigs will be turned onto the field to gather what corn there is left by the older hogs. These pigs will be weighed when turned into the corn field and again when all the corn has been eaten. The yield of corn per acre will be estimated when the demonstration starts.

## Boise.

During the week ending July 3, a call was received to inspect a large herd of hogs belonging to L. L. Young, a prominent stock breeder and grain raiser of Nampa. County Agent McCall had made three trips to Mr. Young's place the previous week, but as no hogs had died and as Mr. Young was not willing to sacrifice one for the purpose of an autopsy, the trouble could not be diagnosed. On Monday, the farm was visited, and permission secured to kill a sick animal. In spite of the fact that Mr. Young did not believe the trouble was cholera, because he had been feeding Kresco in the slop and water and had his hogs well scattered and well quartered, unmistakable lesions of cholera were found.

Fifty head in this herd were ready for market and as they were separate from the bunch in which the disease had appeared, the deputy state veterinarian gave permission to ship them. The remainder of the herd, over 300 head, were vaccinated, but there will be considerable loss as the disease had a good start. In a bunch of 85 head of shoats



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DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

## Boise (continued)

only six normal temperatures were found. Three shoats were killed at once, and one died immediately after treatment and was "posted", showing very pronounced lesions. Heavy doses of serum were used and when the herd was revisited on Friday, only two more had died though others were clearly hopeless.

On Friday a small herd was vaccinated near Greenleaf. The case was doubtful, but as there were only a few hogs in the herd the owner preferred to vaccinate.

Two meetings were attended during the week, one at Greenleaf on Tuesday night, called for the purpose of discussing grasshopper control, but at which the hog cholera situation was discussed and one at Sunny Slope on Friday night at which arrangements were made to have the boys and young men of the district meet on Thursday afternoons during the remainder of the summer to take up a course of study along some agricultural line. As the district is quite largely interested in dairying, the first work taken up will be along that line.

In a recent report mention was made of an experiment with sodium arsenite spray to control grasshoppers. Since that time Mr. McCall has been giving this work his special attention and reports remarkable results from the use of the spray. From a pound to a pound and a quarter of the arsenite, mixed with 2 quarts of molasses and 50 gallons of water have been used on an acre.

Mr. McCall has been in the county only since the middle of March, but is sufficiently acquainted with the county and local conditions that we have agreed to divide the work in such a way as to permit each of us to specialize as much as possible, which we feel, will be a great advantage to the work.

Numerical Summary.

Days employed.....	7
Miles traveled by rail.....	422
" " by auto.....	225
Farms visited.....	15
Farms revisited this week.....	1
Number of visits.....	18
Persons visited out of office.....	21
Calls at office.....	4
Requests for services.....	15
Meetings attended.....	2
Meetings addressed.....	2



17 July, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

## Boise (continued)

Attendance at meetings.....	80
Herds of hogs inspected for cholera.....	3
Herds found infected.....	2
Herds treated for cholera.....	2
Number of hogs treated.....	310

## Tieton.

Mr. R. P. Bean reports the following for the week ending July 10, 1915:

The most important development has been the unanimous response by the farmers in the Cottonwood Canon to the cooperative cow testing plan. This work was mentioned, casually, during the progress of the farm survey work in that section. One days work has lined up nine farmers positively, and two more as good prospects. Between 50 and 60 cows will be included and the records will begin as soon as scales can be obtained. Each man interested wants to obtain more cows as soon as possible and all expressed themselves in favor of giving attention to producing good cream.

Five farm surveys were made during the past week and three of the men concerned asked for assistance in milk testing and keeping records. The inability of some cows to maintain a flow of milk after the fourth or fifth month following fresheing is undoubtedly responsible for some of the interest.

The receipt of the circular letter on hog cholera recently distributed is frequently acknowledged, orally, and a good spirit of cooperation always expressed. There is no cholera on the project at present and no serious trouble through negligence is anticipated. The ditch riders are also interested in watching the welfare of the herds in their patrol districts.

There is a marked shortage in the water supply for the Yakima Unit this summer. The natural flow of the rivers is less than for the last 20 years. Fortunately the storage will be sufficient to prevent serious losses, providing the waste is kept at a minimum. The Tieton supply is affected less than that of the Sunnyside, where a limited water schedule under rotation has been placed in operation.



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## DEMONSTRATIONS ON RECLAMATION PROJECTS.

## RAISING CALVES ON SKIM MILK.

The Kansas Experiment Station in Circular No. 48, entitled "Raising Calves on Skim Milk", publishes some interesting figures relating to the use of skin milk as a feed for calves. The following is quoted from the circular:

"Several years ago the Kansas Experiment Station carried on experiments to demonstrate the value of skin milk as compared with whole milk as a food for calves. Thirty calves were divided into three groups. One lot was fed on skin milk, another on whole milk, and still another lot was nursed by their mothers. The following table shows the results of these experiments:

Experiment	No. of calves	Days Fed	Aver. gain per head pounds	Daily gain per head pounds	Cost per 100 lbs. gain
Skim milk.....	10	154	223	1.51	\$ 2.26
Whole milk.....	10	154	287	1.86	7.60
Running with dam	10	154	248	1.77	4.41

"The calves nursed by their dams and those fed whole milk made slightly better gains than those fed on skim milk, but it was at much greater expense. The skim-milk calves consumed 122 pounds of grain per hundred pounds of gain, while the whole-milk calves consumed 58 pounds of grain and 31.8 pounds of butter fat in the milk. At this rate a hundred pounds of grain is equivalent in feeding value to 48 pounds of fat. After the calf-feeding experiment had closed, the calves, which were steers, were put in the feed lot and fed for a period of seven months. The results of this experiment are very interesting. The calves in the skim-milk lot made the best gains, those that were fed on whole milk ranked second, while the lot raised by the dam stood last.

"Skim-milk calves will not look quite so thrifty for the first few months as calves fed on whole milk or allowed to run with their mothers, but at the end of the year there will not be much difference in size; if any difference, the skim-milk calves will be better, provided they have been properly fed. The skim-milk calf becomes accustomed to eating grain and hay early in life, consequently when it is weaned the change of feed is not so noticeable as it is with the whole-milk calf, and it does not suffer a setback at this time. The calf that has been fed on whole milk has not been accustomed to getting very much of its nutrients from grain and hay, and invariably does not gain as rapidly as does the skim-milk calf for the first two or three weeks after it is weaned."



17 July, 1915.

## DEMONSTRATIONS ON RECLAMATION PROJECTS.

## Raising Calves on Skim Milk (continued)

In addition to the above, suggestions are made regarding weaning, quantity of milk to feed, changing to skim milk, temperature of milk, length of time to feed skim milk, feeding grain and hay, watering, stabling, and the prevention and treatment of scours.

Copies of this circular can be obtained by application to the Experiment Station, Manhattan, Kansas.

F.D.F.

BLACKLEG VACCINE.

Mr. Ireland recently requested that a supply of blackleg vaccine be sent him so as to be available for prompt use by the farmers on the Boise project. Upon receipt of this request, the matter was taken up with Dr. A. Eichhorn, Chief of the Pathological Division of the Bureau of Animal Industry, who stated that the general practice of his division is to distribute the vaccine either directly to farmers who apply for it or to State veterinarians, through whom the farmers may obtain it.

Because of some special conditions existing on the Boise project we were able to secure 500 doses of vaccine for Mr. Ireland's immediate use. Regarding this matter, Dr. Eichhorn on July 14 wrote the following letter:

"With reference to your request for five hundred doses of blackleg vaccine for Mr. H. A. Ireland, Caldwell, Idaho, you are advised that the vaccine has been forwarded to his address. Such procedure in the distribution of blackleg vaccine is against the practice of this office as you may see from the marked part of the enclosed circular (B.A.I. #31, fifth revision) on page 19, and for this reason I would kindly request you to inform Mr. Ireland to obtain his vaccine through the channels approved by this Bureau."

A copy of Bureau of Animal Industry circular No. 31 (fifth revision) entitled, "Blackleg: Its Nature, Cause and Prevention" is being sent to each of the field men in demonstration work for their information. These copies are corrected in accordance with suggestions made by Dr. Eichhorn.

It is requested that in cases where the field men are called upon to assist farmers in connection with blackleg, they take up the matter of securing vaccine with the State veterinarians. In case satisfactory arrangements cannot be made with these officials this office should be advised in detail regarding the circumstances so that other arrangements may be made.

F.D.F.



24 July, 1915.

## REPORTS ON THE USE OF AUTOMOBILES.

The following is quoted from a memorandum recently received by Mr. Farrell from the Assistant Chief of Bureau, regarding the use of automobiles:

"In view of the certainty that there will be a critical review of automobile expenses, both during the coming session of Congress and at the close of the present fiscal year, it is necessary that all automobile hire be very carefully and completely explained. The vouchers should either include statements more or less similar to those which you furnished in your memorandum explaining the use of the government-owned machines when we were discussing authority for automobile expenditures during the past session of Congress, or letters should be submitted supporting the vouchers and making explanations of that type."

In accordance with the above, it is requested that, beginning July 1, 1915, each field man in the two offices keep an accurate detailed record by days of any official trips made by him in hired or government-owned automobiles. This record should show for each trip the following items:

1. The time of departure from and return to headquarters.
2. The names of towns, farms, and farmers visited.
3. The approximate number of miles traveled.
4. The specific purpose of each visit.
5. The reason why an automobile was used instead of other means of travel.

In cases where automobiles are hired and vouchers are submitted covering the charges, a statement including all of the above items should be submitted with each voucher, and copies of the statements should be kept on file.

Where government-owned machines are used, statements covering the first four of the above items can be included in the regular weekly itinerary reports, the fifth item being ignored. This practice is now being followed by some of the field men.

The field men should give this matter their careful attention so that, if at any time we are called upon for a detailed statement regarding the use of automobiles, the necessary information can be secured on short notice; and so that the payment of vouchers covering the use of automobiles will not be delayed.

A letter covering the above points was sent, on July 19, to the farm superintendents and to the field men in the office of Demonstrations on Reclamation Projects.

F.D.F.



24 July, 1915.

## WESTERN IRRIGATION AGRICULTURE.

## FIELD NOTES.

## Truckee-Carson.

During the week ending July 10, the maximum temperature was 92, minimum temperature 44, and precipitation .18 inch.

Foxtail was removed from all fields and ditches. Alfalfa was seeded on plat C-1.

The laying of the tile from the sump to the deep U. S. R. S. drain on the south side of the farm was begun. Ten-inch tile are laid on a 1x10 board in the bottom of the drain and are held in line by 1x2 strips nailed to each side of the boards. Strips of roofing paper are used over the upper half of the joints and the whole covered with old alfalfa hay before filling in the earth.

Messrs. Scofield, Blair, Lamon and Marshall visited the station after the Salt Lake Conference. Prof. J. E. Church of the University of Nevada was at Fallon on the 6th, 7th and 8th installing thermographs on sites in various parts of the project selected by Mr. Headley. The plan is to make a temperature survey of the project and the instruments were placed with the idea of having all districts fairly represented. Records will be obtained from the following places:-

<u>District.</u>	<u>Cooperator.</u>
Island.....	Chester Conner.
Stillwater.....	W. A. VanVoorhis.
Fallon.....	U. S. Experiment Farm.
Swingle.....	C. G. Swingle.
Fernley.....	W. W. Cogswell.
Pyramid Lake.....	J. D. Oliver.

The results obtained from this work will be available by both the Truckee-Carson Experiment Farm and the University of Nevada.

The pigs in the pasture experiment made very satisfactory gains during the seventh period, but this was followed by a marked falling off in gains during the eight period. The fluctuations in the percent. daily gain for the various periods seem to be abnormal. The average percent. daily gain for each period is as follows:-



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WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

## Truckee-Carson (continued)

First Period.....	.59 %
Second Period.....	.78
Third Period.....	.94
Fourth Period.....	.63
Fifth Period.....	.65
Sixth Period.....	.24
Seventh Period.....	.85
Eighth.....	.50

The detailed results for the 7th and 8th periods, and the average of all periods are shown in the following table:-

	Initial Weight, lbs.	Final Weight lbs.	Total Gain, lbs.	Daily Gain, lbs.	% Daily lbs.	Barley Fed, lbs.	Cost of Barley @ 1 1/2	Value of Gain @ 7 ¢	Net ret. for 1/4 acre of pasture
Seventh Period - June 26 to July 3 -- 7 days.									
5 Durocs	289.0	305.5	16.5	2.36	0.79	40.5	\$ .60	\$1.16	\$ 0.56
5 Berk,	217.5	232.0	14.5	2.07	0.92	30.4	.46	1.01	0.55
10 Pigs	506.5	537.5	31.0	4.43	0.85	70.9	1.06	2.17	1.11
Eighth Period - July 3 to 10 -- 7 days.									
5 Durocs	305.5	317.5	12.0	1.71	0.55	42.8	.64	.84	.20
5 Berk,	232.0	238.5	6.5	.93	0.40	32.5	.49	.46	-.03
10 pigs	537.5	556.0	18.5	2.64	0.48	75.3	1.13	1.30	.17
All Periods - May 16 to July 10 - 55 days.									
5 Durocs	224.0	317.5	93.5	1.70	0.64	292.6	4.39	6.55	2.16
5 Berk.	166.0	238.5	72.5	1.32	0.66	217.4	3.26	5.07	1.81
10 Pigs	390.0	556.0	166.0	3.02	0.65	510.0	7.65	11.62	3.97



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WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

## Scottsbluff.

The first two days of the week ending July 17, 3 men were taken off the field work and were employed in cleaning up about the buildings, painting the rooms and cleaning up in general where the fire occurred the previous week. As the harvest picnic came on Wednesday the 14th, we were anxious to get this building in shape so that it would not look too bad at that time. During the week the orchard was irrigated and men were kept busy hoeing beets, potatoes and other crops.

Cutting of the second crop of alfalfa began July 16. Several plats were cut on Field "A", but the remainder will be left until next week.

On July 12 four of the cows were put on the sweet clover pasture. At first we were a little afraid that this clover would bloat the cows. In fact, they were pretty well filled at noon of the first day and we thought it best to take them off. The following day we watched them very closely and they were left on the clover all day. We should really leave these cows upon the pasture all night and may do so in the near future. The sweet clover was fully 12 inches high when the cows were turned in. A number of visitors that saw this clover felt that we had let it get too high before letting in the stock, but we found that necessary on the new seeding. Since the sweet clover is young, the animals pull up a great deal by the roots. We had to allow it to get well established before turning the cows in. Later on we do not think that there will be any danger of the stock pulling it up.

The picnic on the Farm was a decided success. A large number of farmers were in attendance. We were not able to count the actual number of people present, but it was generally estimated that between 1,000 and 1,200. Over 150 automobiles were on the Farm. The program on that day was about the same as we usually follow. We had two short talks by some of the local farmers in the afternoon. Following this, the visitors took a trip over the fields. This took up all the afternoon. A great deal of interest was shown in the crop rotation and hog feeding work and also the pastures and dairy work.



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WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

Scottsbluff (continued)

HOGS ON ALFALFA PASTURE DURING THE SPRING PERIOD.

The table below shows the results secured with 6 lots of fall-farrowed pigs on alfalfa pasture from April 26 to June 25, 1915, a period of 60 days, as reported by Mr. Holden. In the calculations, corn is valued at 60 cents a bushel, barley at \$1.00 per cwt., and hogs at 7 cents a pound.

	Lot 1	Lot 2	Lot 5	Rot. 65	Lot 4	Lot 3
Grain ration.....	No grain	1% Corn	2% Corn	2% Corn	2% Barley	3% Corn
Initial No. hogs.	12	16	20	20	20	24
Total Initial Wt.	1296	1732	2164	2160	2168	2592
Av. Initial Wt...	108	108	108.2	108	108.4	108
Total Final Wt...	1604	2352	3344	3404	3348	4364
Av. Final Wt.....	134	148	167	170	167	182
Total Gain (lbs.)	308	620	1180	1244	1180	1772
Av. Daily gain per lot (lbs.)..	5.13	10.33	19.67	20.73	19.67	29.63
Value of Gains @ \$7.00 .....	\$21.56	\$43.40	\$82.60	\$87.08	\$ 82.60	\$124.04
Grain Fed.....		24 bus	50.4 bu	64.8 bu	3212 #	101.6 bu.
Cost of Grain....		\$14.40	\$30.24	\$38.88	\$ 32.12	\$60.96
Net Return per acre of Pasture.	\$21.56	\$29.00	\$52.36	\$48.20	\$ 50.48	\$63.08
Daily Net Return per acre, Pasture	\$ 0.36	\$ 0.48	\$ 0.87	\$ 0.80	\$ 0.86	\$ 1.05
Pounds grain for pound of gain...		2.16	2.4	2.9	2.6	3.2
Cost per 100 lbs. gain pasture @\$5.	\$ 1.64	\$ 3.13	\$ 2.97	\$ 3.52	\$ 3.14	\$ 3.72
Hogs paid for grain (Corn, bus; Bar- ley, cwt.)		\$ 0.91	\$ 1.21	\$ 1.01	\$ 1.90	\$ 1.01

It is of interest that the results secured from the duplicate lots which received a 2 per cent. ration of corn are fairly uniform, and that those secured by feeding a 2 per cent. ration of barley lie approximately midway between them. In other words there was little, if any, significant difference in the feeding value of corn and barley, pound for pound. This is in substantial agreement with the results secured in 1914.



24 July, 1915.

WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

Belle Fourche.

During the week ending July 17, the maximum temperature was 86, minimum temperature 54, and precipitation 3.32 inches.

The alfalfa, oats, barley, wheat and flax, on the irrigated rotations, and alfalfa in Fields Ø and P were all irrigated during the week. Wheat, oats, barley and flax were irrigated in Series III and IV in the fall irrigation experiment. The rain on July 14, amounting to 2.5 inches, washed out the ditches so that the other series could not be irrigated at this time. No field work could be done the last part of the week.



24 July, 1915.

## DEMONSTRATIONS ON RECLAMATION PROJECTS.

FIELD NOTES.

## Minidoka.

Of eleven calls for visits received during the week ending July 10, five were to investigate sickness in hogs, four were to go over all details of the farming system and offer suggestions for improving the methods of managing and feeding the live stock, one for assistance in planning a feeding floor and one to go over the type of grade draft mares kept on the farm and suggest a suitable stallion to overcome the defects present. All visits requested, as well as two left over from last week, were made.

Mr. McKendrick of Rupert is making a success of a diversified farming system. He has 100 head of Lincoln ewes (not registered), 16 grade Poland China sows and 15 head of milking shorthorn cattle. The cattle and sheep are grazed on school land and wintered on the farm. The gross returns on the flock of sheep last year, were \$1025. The cost of keeping the flock was estimated at \$200. The lambing percentage this year was 121. The returns on hogs were \$840.; cost of keeping hogs, estimated at \$400. All feed is raised on the farm and the above estimates are made on the yields and market prices of the grain and hay at the time it would have been sold.

Cholera broke out on the farm of Mr. George Schultz, a neighbor and brother of Mr. Jack Schultz, where the outbreak occurred last week. In a herd of 114, three died. Of the 111 vaccinated only nine had high temperatures.

The last of the wool produced on the Project was sold this week at from 23 to 25 cents. In the opinion of the sheepmen and the buyers, the 1915 clip in this section is now all sold.

Heavy rains that fell Monday evening and Thursday night were of much benefit, specially to the dry farms and the open range.

## Huntley.

During the week ending July 10, a trip was made to Billings, where a conference was had with the manager of the Billings Creamery. Complaints of our farmers regarding cream prices, test, etc., and methods of preventing certain losses due partly to negligence on the part of the company's employees and partly to carelessness on the part of the farmer, were discussed. An effort is being made to induce the farmers to ship sweet cream. The Billings Creamery wants all the sweet cream that they can get, and will pay a substan-



24 July, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

## Huntley (continued)

tial premium for it. The project receipts for cream will be materially increased if the farmers can be induced to go to the trouble necessary to market their cream in a sweet condition.

A conference was also had with a Mr. Thompson of Billings, relative to securing cows and bulls for the project. Mr. Thompson is a dealer and frequently has some good stuff on hand.

The Pleasant Valley Dairy Co. was also interviewed regarding a market for sweet cream, but they are receiving all that they can handle at present.

Mr. Platz of the Huntley Lumber & Implement Company was interviewed regarding material for a home made silo for Mr. Myers. Mr. Myers has not yet definitely decided to build a silo this fall but it is likely that he will. The Huntley Lumber & Implement Co. has offered to donate a good portion of the material.

Three farmers were taken to the experiment farm during the week. Thirty-three samples of milk were tested.

There is nothing new to report on the hog cholera situation. While in Billings arrangements were made with the State Veterinary Department through Dr. N. B. Smith to receive any necessary assistance in disease eradication work on the project.

## Shoshone.

During the week ending July 10, eleven visits were made to farms, one man called at the office, milk was tested for two men, one article was written for the local papers, assistance was given in the construction of one silo, and a barn plan was drawn for one man.

Farmers are having difficulty in curing the first cutting of alfalfa because of frequent showers.

Corn which was planted for silo filling is doing well. It averages about six inches in height and has a good color.

One farmer in July 1912 sowed twelve pounds of brome grass per acre on seventeen acres of a poor stand of alfalfa. The seventeen acres are now pasturing 12 mature cattle, 6 calves, 5 horses and 90 hogs averaging more than 125 pounds.

The first stave silo on the project was erected this week; the foundation was put in sometime ago. Five men erected the silo complete in three days.



24 July, 1915.

## DEMONSTRATIONS ON RECLAMATION PROJECTS.

Field Notes.

## Boise.

Three calls came in during the week ending July 10, for diagnoses of diseases of swine. On Sunday a call came from near Greenleaf and was answered at once. No hogs had died and only one was sick. This showed no symptoms of cholera and no post mortem was held at that time. The feed used consisted of alfalfa hay, green grass and wheat and bearded barley in the straw. The sick hog was given a physic and a change of feed was recommended and adopted. The sick animal died later and was "posted". No cholera lesions were found but a number of conditions were discovered that would have killed the animal if he had'nt died. A compact mass of crude matter almost completely filled the stomach; the abdomen was filled and inflated with a urine-like fluid; the bladder was badly affected, the wall being much thickened and the mucous coat apparently decomposed and covered with a cheesy substance. These conditions are mentioned especially because the last two have been found repeatedly in post mortem examinations this year.

A second case reported from near Wilder proved to be indigestion and malnutrition. Pigs that have been grain-fed through the winter had been turned upon alfalfa and grass pastures and forced to subsist without any concentrated feed to which they had been accustomed. Natural consequences resulted.

The third case proved to be cholera and illustrated the variability of that disease. A pig examined on Monday showed no temperature nor other symptoms of cholera. No others were sick. On Wednesday, another pig died suddenly and was posted, showing cholera lesions. The animal first affected had a high temperature at that time but no other symptoms of cholera. It was killed and posted and showed cholera lesions. The rest of the herd was carefully examined and a number of temperatures taken, all of which were normal. The following day, which was as soon as serum could be secured, when the herd was vaccinated, no visible symptoms were in evidence but temperatures ranged as high as 108.4° F. Two pigs died immediately after vaccination, another had died the night before but no more have died up to noon July 12, and the owner reports everything favorable. Extremely large doses of serum were used.

Mr Young's herd at Nampa was visited again on Friday. Thirty head from this herd had died or been killed up to that time and the loss still to be sustained could not be estimated.



24 July, 1915.

## DEMONSTRATIONS ON RECLAMATION PROJECTS.

Field Notes.

## Boise (continued)

Frequent reports come to this office of losses from blackleg among calves. Most of these losses seem to occur on lowland pastures. I have had occasional requests to administer vaccine although most farmers do their own work, some using the vaccine which the Department of Agriculture issues free of charge, some the pellet form of vaccine and others resort to the insertion of pieces of garlic under the skin. Some complaints have recently come in that the pellets have failed in some cases, they being found intact under the skin after the death of the animal, in some cases two or three months subsequent to vaccination. The government vaccine is open to the objection that its administration requires considerable care as the suspended particles easily and quickly settle out of the liquid unless very finely pulverized. A troublesome feature of the blackleg problem is that there seems to be no particular season for the disease here, losses occurring at any time during the pasture season.

The summer course in agriculture at Sunny Slope was started on Thursday P.M. of this week. Eleven boys were present and the interest shown was encouraging. A milk testing demonstration was made and the boys themselves were required to perform the various steps of making the test. The discussion consisted chiefly of the composition and production of milk and the relation of testing and record keeping to the business of dairying. The next meeting will be at the home of one of the boys where a study of types and breeds of dairy cows will be taken up and points of the individual animals emphasized by scoring.

Friday was spent with Mr. Marshall of the Bureau of Animal Industry, in looking up conditions regarding sheep and beef cattle feeding on the Project. One of our visits brought out the fact that a Project farmer last winter fed 5000 head of lambs which returned him \$18.00 per ton for the hay they consumed. Another man is preparing to seed almost his entire farm of several hundred acres to pasture, expecting to pasture and feed both sheep and cattle extensively.



24 July, 1915.

## DEMONSTRATIONS ON RECLAMATION PROJECTS.

Field Notes.

## Boise (continued)

During the week ending July 17, 13 requests for services were received; 11 farm visits were made, and one swine herd was inspected for cholera.

At the meeting of the Directors of the Water Users Association, the plan of securing forest range for cattle on the Project and organizing a cooperative grazing Association was discussed. It was strongly endorsed by most of the men who are familiar with it and there will probably be little difficulty in getting the plan started. The hog cholera situation was also briefly discussed.

Only one call has been received to inspect hogs this week. That came in Friday night from a man who had lost heavily two years ago. His hogs are in poor condition from lack of feed, but no very suspicious symptoms of cholera could be found. However, he was urged to watch his stuff very closely and report any further indications of trouble.

The owner of the herd vaccinated on July 8, was seen on Saturday the 17th. He reports that the two hogs which died immediately after vaccination are the only ones lost since the treatment was given and that all the others seem to be all right. This is rather remarkable, as there were 16 hogs in the herd showing high temperatures. Mr. Young of Nampa, whose herd was treated the last days of June, reports that his losses have nearly ceased. Over half of the bunch in which the disease first appeared, have died or been killed.

An interesting pasture was visited on Saturday. This is a 3-acre pasture which was seeded to Kentucky blue grass, white clover and alsike clover five years ago. It has pastured 13 head of cattle, all practically mature, through the day time nearly the entire summer. The herd is taken off during irrigation, but this time has amounted to only about two weeks in all. The grass is now quite rank and could have been grazed considerably more than it has. More specific information will be secured later in regard to this pasture. A photo of the herd was taken.

Things have been very quite on the Boise Project this week. Farmers are very busy and not as many calls as usual are being received. One day was spent at the Annual Picnic of the Water Users Association. This event has become one of considerable importance since its beginning five years ago. It is largely attended by Project settlers as well as others, although it is still rather a local affair. A number of men were met during the day and some work was planned.



24 July, 1915.

## DEMONSTRATIONS ON RECLAMATION PROJECTS.

## DIFFERENT PROTEINS FOR PIG FEED.

Mr. Knorr has called attention to a review of some experiments made at the Wisconsin Experiment Station to determine the value of proteins from different sources. The review gives some information regarding the value of certain proteins for pigs, touching upon the question discussed at the Salt Lake Conference relative to the use of skim milk as a pig feed. For this reason the review, as published in the Report of the Wisconsin Station for 1914, is quoted in full below:

"All of the common feeding standards recommended a certain amount of digestible protein for the different farm animals at various stages of growth or fattening. As it has been known for several years that pure proteins from various foodstuffs differ widely in composition, numerous experiments have been conducted by scientists to determine the nutritive value of the various proteins. Great difficulty was, however, encountered in inducing animals to eat rations made up of chemically pure proteins, carbohydrates, fats, and salts. Professor McCollum of the Agricultural Chemistry department reported in 1909 the first fairly successful experiments along this line. Since that time the experiment of Professor McCollum with pigs and rats and of Professor Osborne and Mendel at Yale University, have shown that certain individual proteins from both animal and vegetable sources, as milk casein or egg albumen, are capable of supplying everything necessary in the way of nitrogenous compounds for prolonged growth. Other proteins, as gliadin of wheat, suffice for maintenance, but not growth, while still others, as gelatin or zein of corn, can serve only in part for maintenance and are incapable of producing growth when fed as the only source of protein.

"While such studies, showing the value of individual purified proteins, are of great fundamental importance in revealing the chemical processes involved in animal nutrition, in both human dietetics and in animal feeding we always deal with certain groups of proteins as they are found in the naturally occurring foodstuffs. Results secured by Professor McCollum in metabolism experiments with pigs show that during relatively short periods of from 24 to 62 days there is very little difference in the value for growth of the protein mixtures contained in wheat, oat, and corn kernels, the maximum percentage of the total nitrogen consumed which was retained for growth being 25.88, 27.76, and 25.23 per cent, respectively. In comparison with these results, the high efficiency of milk proteins is shown by the fact that a pig fed milk casein as the



24 July, 1915.

## DEMONSTRATIONS ON RECLAMATION PROJECTS.

## Different Proteins for Pig Feed (continued)

sole source of protein retained over 45 per cent of the nitrogen for growth, and pig fed skim milk over 63 per cent.

"To determine the value of the proteins of the corn and wheat grains for long continued growth in swine, Professors Hart and McCollum have carried on experiments in cooperation with Professor Fuller of the Animal Husbandry department. In these trials pigs were fed indoors, and supplied with distilled instead of well water, so that an exact record could be made not only of the organic nutrients consumed but also of the mineral matter supplied. When pigs were restricted to corn and gluten feed, even though a proper amount of protein was supplied, little or no growth could be secured. However, when mineral matter was added, making the entire ash content of the ration very similar in quantity and quality to that of milk, pigs made approximately normal gains for ten months, reaching weights of 235 to 275 pounds. This shows that the failure of swine to grow on corn protein alone is not due entirely to the incomplete nature of its proteins, as has been assumed by some.

"Where the wheat kernel supplied all the nutrients, both swine and rats failed to make satisfactory growth. When the salt content of the ration was modified to resemble milk, some growth was secured, but ultimately this ceased, followed by partial paralysis, particularly in the swine, and a general decline. When to the wheat kernel not only the salts but also butter fat was added, growth was somewhat better than without butter fat, although it was by no means normal. However, where the wheat kernel, salt, and butter fat ration was supplemented with 2.5 per cent casein, normal growth was secured with swine. These results, compared with the data previously mentioned, secured in the metabolism experiments which covered shorter periods, show the necessity of long continued trials to determine the effect of a feed on the well being of the animal."



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# ACREAGES OF THE PRINCIPAL CROPS ON THE RECLAMATION PROJECTS IN 1914.

The principal crops grown on the Reclamation projects in 1914 were hay crops, cereals, fruits, vegetables and truck, sugar beets and cotton. The following comments and figures on this subject are based on data published in the "Reclamation Record" for June, 1915, which show that the acreage from which each of these crops was harvested on 23 projects in 1914 was as follows:

Alfalfa, Clover and other hay.....	353,443.
Cereals .....	187,869.
Fruits .....	19,826.
Vegetables and truck .....	33,449.
Sugar beets .....	12,753.
Cotton .....	15,072.
Total .....	622,412.

The total area from which crops were harvested was 703,424 acres. The figures in the above table, therefore, account for about 90 per cent. of the total harvested area.

In the table below, the figures are given in more detail.

<u>Crop</u>	<u>Harvested Acreage</u>	<u>Per cent. of Total Harvested Acreage</u>
<u>Hay.</u>		
Alfalfa .....	329,676.	
Clover .....	10,464.	
Other .....	13,303.	
Total .....	353,443.	52.
<u>Cereals.</u>		
Barley .....	34,795.	
Corn .....	35,240.	
Oats .....	50,474.	
Rye .....	766.	
Wheat .....	62,482.	
Grain Sorghums .....	4,112.	
Total .....	187,869.	27.
Total, Hay and Cereals .....	541,312.	79.



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## Acreages of the Principal Crops on the Reclamation Projects in 1914 (con't)

<u>Crop</u>	<u>Harvested Acreage</u>	<u>Per cent. of Total Harvested Acreage</u>
<u>Fruits.</u>		
Apples .....	12,085.	
Miscellaneous .....	<u>7,741.</u>	
Total .....	<u>19,826.</u>	<u>3.-</u>
<u>Vegetables and Truck.</u>		
Potatoes .....	20,179.	
Truck .....	10,996.	
Miscellaneous .....	<u>2,274.</u>	
Total .....	<u>33,449.</u>	<u>5.-</u>
<u>Sugar Beets</u> .....	<u>12,753.</u>	<u>2.-</u>
<u>Cotton</u> .....	<u>15,072.</u>	<u>2.4</u>

It is important to note that the combined acreage of hay and cereals was 79 per cent. of the entire harvested acreage, approximately as it has been for several years. In our consideration of the Reclamation projects as a whole, we have made a practice of figuring that alfalfa and other hay crops occupy about 50 per cent. of the harvested acreage and cereals about 30 per cent.

Hay.-- The above table shows that alfalfa is by far the most important hay crop, clover and other hay crops occupying comparatively negligible acreages. It should be stated that the acreage figures shown for hay do not include all the acreage in forage. For example, the Reclamation Service reports 85,041 acres as pasture. A part of this, however, is included in the alfalfa hay acreage, so that it is not known how much land was used exclusively for pasture. It is certain that the area devoted to the production of hay and forage exceeded 50 per cent of the total area harvested.

Wheat and Oats.-- The leading cereal was wheat, of which there were 62,482 acres. Of this area 34,247 acres, over 50 per cent, was on the Boise, Minidoka and Belle Fourche projects. Oats were next in importance, with an area of 80,474 acres. In oat acreage, the Minidoka led, with 8,165 acres; it was followed by the North Platte, with 7,017 acres, the Boise with 6,531 acres, the Belle Fourche with 6,392 acres and the Uncompahgre with 6,166 acres, these five projects accounting for about 70 per cent of the acreage in oats.



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## Acreages of the Principal Crops on the Reclamation Projects in 1914 (con't)

Corn.-- Corn (harvested for grain) with a total acreage of 35,240, followed oats. In corn acreage, the Boise project led, with 8,818 acres; it was followed by the North Platte with 6,020 acres, the Sunnyside with 6,004 acres, and the Belle Fourche with 4,415 acres, these four projects containing over 70 per cent of the corn acreage. Of the 23 projects, 16 grew less than 500 acres of corn each.

Barley.-- Barley, with 34,795 acres, practically equalled corn. The largest barley acreage was on the Salt River project, which grew 17,066 acres, or 50 per cent of the total barley acreage; this was followed by the Klamath, with 4,066 acres, the Boise with 2,498 acres, and the North Platte with 2,261 acres, over 70 per cent of the total barley acreage being on these four projects.

Grain Sorghums.-- Grain sorghums, with a total acreage of 4,112, are reported from only the Yuma, with 3,066 acres, the Orland, the Carlsbad and the Rio Grande. It is believed that several thousand acres of this crop on the Salt River project are included as "Corn fodder" under "hay and forage" in the Reclamation Service report.

Fruits.-- Apples were the leading fruit crop, the harvested acreage being 12,085, out of a total harvested acreage of 19,826, for all fruits. The leading apple producing projects were the Sunnyside, with 7,168 acres harvested, the Uncompahgre with 1,660 and the Okanogan with 1,476. Next to apples were peaches, with 1,942 acres, of which 55 per cent were on the Sunnyside; pears, with 1,082 acres, mostly on the Sunnyside; and citrus fruits, 794 acres, chiefly on the Salt River project. Small fruits, of which 75 per cent of the acreage was on the Salt River and Sunnyside projects occupied 2,136 acres. The total harvested acreage in fruits amounted to less than 3 per cent of the total harvested acreage of all crops.

Vegetables and Truck.-- Of the vegetable and truck crops, potatoes occupied 20,179 of the 33,449 acres, or 60 per cent. The leading potato growing projects were the Uncompahgre, with 4,557 acres, the Minidoka with 4,135, the Sunnyside with 3,828, and the Tieton with 3,380, these four projects growing 75 per cent of the potato acreage. The leading truck producing projects were the Salt River with 3,851 acres, and the Rio Grande with 2,032 acres.

Sugar Beets.-- Sugar beets, of which there were 12,753 acres, were grown commercially on only five projects, the acreages being as follows:

North Platte .....	5,083.
Huntley .....	4,274.
Minidoka .....	2,360.
Uncompahgre .....	865.
Shoshone .....	119.
Total .....	12,701.



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## Acreages of the Principal Crops on the Reclamation Projects in 1914 (con't)

Insignificant acreages, aggregating only 51 acres, were grown on the Boise, Sun River, Carlsbad, and Belle Fourche projects. The total acreage in beets amounted to less than 2 per cent of the total harvested acreage on the 23 projects.

Cotton.-- Cotton occupied a total of 15,072 acres, a little more than 2 per cent of the total harvested acreage. It was grown on only 3 projects - the Salt River, with 11,501 acres; the Yuma, with 2,268 acres, and the Carlsbad with 1,303 acres.

Alfalfa and Clover Seed.-- Alfalfa seed was harvested from 8,611 acres, of which 5,485 acres, or 62 per cent, was on the Yuma project; and 1,416 acres, or 16 per cent, was on the Belle Fourche project. There were 8,367 acres of clover seed harvested, of which 8,112 acres, or 96 per cent, was on the Boise project. The acreage from which alfalfa seed and clover seed were harvested was probably all included in that reported for alfalfa and clover hay.

Irrigated but not harvested.-- The total area irrigated on the 23 projects in 1914 was 761,271 acres. Crops were harvested from 703,424 acres, leaving an area of 57,847 acres irrigated but not harvested. This area amounted to about 7 per cent of the total irrigated acreage. In this area, there were 34,332 acres of young alfalfa, and 33,185 acres of non-bearing orchard and other fruit plantings. Because of the practice of interplanting, these two figures represent some duplicate acreage.

Perhaps the most significant point about crop production on the Reclamation projects in 1914, as in former years, is that at least 80 per cent of the harvested acreage was devoted to the production of forage and cereal crops, the profitable disposal of which necessitates the establishment of livestock industries. It should be noted, however, that in addition to these industries, and in connection with them, the production of cotton, alfalfa seed, clover seed, sugar beets, potatoes and fruits offers good possibilities on certain projects where the agricultural and economic conditions are favorable.

F.D.F.



31 July, 1915.

## WESTERN IRRIGATION AGRICULTURE.

## FIELD NOTES.

## Yuma.

During the week ending June 26, the maximum temperature was 104, minimum temperature 56, and greatest daily range 48.

Numerous small plantings and nursery plats were cultivated and hoed. The date, fig and deciduous orchards were cultivated.

Alfalfa plantings on B-9 to 17, C-29, D-20 and 24 were harvested.

Wheat plats C-36 to 40 and barley plats D-35, 36, 37, and 39 to 42 were threshed.

Irrigation ditches were cleaned and repairs made on several take out boxes.

Brush from eucalyptus pruning was removed and burned.

Mr. Blair left the twenty-second for the conference at Salt Lake City.

During the week ending July 3, the maximum temperature was 109, minimum temperature 59, and greatest daily range 43.5.

Land was prepared and planted to grain sorghums on D-38 to 42 and C-37, 39 to 40.

A great deal of miscellaneous cultivating was done. The pecan planting on F-1 was plowed between rows. Weed and Bermuda grass hoeing was continued. Figs and deciduous orchard and Eucalyptus plantings were hoed.

Cotton plantings on A-7, A-10<sub>2</sub> and C-20 were thinned.

Cowpeas for green manure were planted on A-9 in preparation for melon plantings next season.

Miscellaneous alfalfa borders and the first cutting of hay from "Method of Planting" and "Rate of Seeding" tests of Sudan grass were harvested.

During the week ending July 10, the maximum temperature was 104.5, minimum temperature 56, and greatest daily range 46.5.

Hay was harvested from six acres of alfalfa plantings. Borders C-44 and 45 were plowed and planted to Dwarf milo. Plat A-23 was planted to corn varieties.

Seedling dates were dug from nurseries A-14 and planted to row along Road No. 9.

Sorghum varieties on D-10 were thinned. Manure was hauled to A-14-3.

Sorghum, cotton, corn and nursery plantings were cultivated.



31 July, 1915.

WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

## Umatilla.

During the week ending July 10, the maximum temperature was 95, minimum temperature 57, and greatest daily range 38.

Mr. Scofield visited the farm and project on Friday and Saturday.

The second crop of alfalfa was cut during the week. The yields are generally higher than those of the first crop owing to more favorable weather.

During the week ending July 17, the maximum temperature was 85, minimum temperature 54, and greatest daily range 28.

The farm was visited during the week by a party from the Oregon Agricultural College who are making a tour of inspection of the sub-stations of the Oregon Experiment Station. They spent considerable time in looking over the work of the farm, after which they made a trip over the various parts of the project. The party included President Kerr, directors Cordley and Hetzel and professor Horner.

During the week ending July 24, the apple and pear trees in C1 and C2 were summer pruned. The trees were making a very heavy growth and were pruned rather severely with the idea of shaping the trees and reducing winter pruning to a minimum.

The plats of the rotation forage crop experiment were irrigated on Saturday. The alfalfa is ready to clip and the fetterita is beginning to head.

The maximum temperature during the week was 103, the minimum 45 and the greatest daily range 48.

## PROGRESS OF LYSIMETER EXPERIMENT.

In order to investigate the amount and rate of percolation, and the plant foods being leached from this sandy soil four concrete lysimeters or drain gauges have been constructed. The lysimeters were 3.3 feet square, 1/4000 acre in area, and six feet deep. Funnels which are imbedded in the floors are connected by rubber tubes to carboys, for collecting the drainage water.

The funnels are filled with coarse rocks for filters. Soil for the lysimeters was taken from the coarse sandy hill on the farm and placed in the lysimeters in six-inch layers with the same degree of compactness as in the field.



31 July, 1915.

## WESTERN IRRIGATION AGRICULTURE.

Field Notes.

## Umatilla (continued)

The irrigation water and drainage water are weighed and samples of each are taken for analysis. The samples are bridged and then composited.

Lysimeter 1 is a check with no crop.

Lysimeter 2 has a crop of soy beans in the summer and hairy vetch in the winter. Both crops are turned under.

Lysimeter 3 has alfalfa which is to be turned under every second year.

Lysimeter 4 has alfalfa with a yearly application of manure at the rate of 32 tons per acre.

A numerical statement of the results secured is given below:

Date Irri- gated	Inches Applied	Grams Applied	P.P.M. Salts in Irrigation water	Grams Percolate	P.P.M. Salts in Percolate	Percent of water Recovered
<u>Lysimeter 1 -- No Crop.</u>						
5/22	2.5	64215	61.5	000	000	000
5/29	3.0	77058	59.5	50799	240	65.9
6/7	3.0	77058	137	68548	224	88.9
6/16	3.0	77058	283	68882	227	89.2
6/24	3.0	77058	170	58396	212	75.7
6/30	3.0	77058	271	70946	221	90.7
7/7	3.0	77058	168	53147	234	68.9
7/13	1.5	38529	117	19614	228	50.9
<u>Lysimeter 2 -- Soy Beans.</u>						
5/22	2.5	64215	61.5	000	000	000
5/29	3.0	77058	59.5	56754	226	73.6
6/7	3.0	77058	137	56962	202	73.9
6/16	3.0	77058	283	54225	214	73.5
6/24	3.0	77058	170	58444	223	75.8
6/30	3.0	77058	271	59193	221	76.8
7/7	3.0	77058	168	43821	210	56.8
7/13	1.5	38529	117	13084	223	33.9
<u>Lysimeter 3 -- Alfalfa.</u>						
5/22	2.5	64215	61.5	000	000	000
5/29	3.0	77058	59.5	45886	229	59.4
6/7	3.0	77058	137	53350	202	69.1
6/16	3.0	77058	283	48643	203	63.0
6/24	3.0	77058	170	38234	212	49.4
6/30	3.0	77058	271	48491	209	62.9
7/7	3.0	77058	168	37685	217	48.8
7/13	1.5	38529	117	4982	245	12.9



31 July, 1915.

WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

Umatilla (continued)

Date Irri- gated	Inches Applied	Grams Applied	P.P.M. Salts in Irrigation water	Grams Percolate	P.P.M. Salts in Percolate	Percent of water Recovered
<u>Lysimeter 4 -- Alfalfa with manure.</u>						
5/22	2.5	64215	61.5	000	000	000
5/29	3.0	77058	59.5	56412	588	73.2
6/7	3.0	77058	137	54071	704	71.6
6/16	3.0	77058	283	54310	674	74.7
6/24	3.0	77058	170	37734	404	48.9
6/30	3.0	77058	271	47647	336	61.8
7/7	3.0	77058	168	36262	351	47.0
7/13	1.5	38529	117	5696	402	14.7

## Truckee-Carson.

During the week ending July 17, the maximum temperature was 93, minimum temperature 47 and precipitation 0.0.

The work of laying tile from the sump to the U. S. Reclamation Service drain was continued throughout the week.

A truck was purchased and rack made for mounting the gasoline engine with which to run the threshing machine. An Ellis Keystone Threshing machine was received.

All fields on the farm were irrigated. A bathroom was constructed on the back porch of the Club House and the work of constructing a septic tank was begun.

## Scottsbluff.

The second crop of alfalfa was cut during the week ending July 24, and part of the hay put in the stack in good shape. A light rain interfered with hay making. The soil is extremely dry and everything must be irrigated as rapidly as possible.

The corn has made a splendid growth during the week, although it is about two weeks later than usual. Some of the grain that had received a second irrigation is beginning to rust, but it is believed that no serious damage will result.



31 July, 1915.

WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

## Scottsbluff (continued)

On the small grass-plat experiments, which were mowed last week, some very interesting observations were made regarding the sweet clover. The sweet clover that was cut at that time as young as it was, suffered considerably from the effect of this cutting and a large percentage of the young plants have died from the results of it. It is estimated that about ten per cent of the plants are dead. It appears that the lawn mower cut this clover too low and destroyed all the buds on the stalks.

The following is a report by Mr. Holden of the first 15-day feeding period of the second lot of hogs in the alfalfa pasturing experiment, from June 30 to July 15:

	Lot 1	Lot 2	Lot 5	Rot. 65	Lot 4	Lot 3
	No	1%	2%	2%	2%	3%
Grain ration.....	Grain	Corn	Corn	Corn	Ground Barley	Corn
Number of hogs.....	6	9	12	12	12	16
Initial weight, lbs...	198	296	404	397	398	496
Final weight, lbs.....	219	349	497	477	499	618
Gains made, lbs.....	21	53	93	80	101	122
Daily gain per acre, lb	5.6	12.3	23.3	20.0	25.3	30.5

## DAIRY REPORT FOR THE SIX MONTHS, JANUARY 1 TO JUNE 30, INCLUSIVE.

Sometime ago it was thought that it would perhaps be best to keep record of the cows according to year rather than by lactation periods. In view of the fact that some of the cows were purchased as late as February 16, the data are given for both the entire period and also by lactation periods.

Table 1 gives the results for the entire time. It will be noticed that the high cost of production was due entirely to the amount of grain fed. Grain being very high priced and the butter fat relatively low, it was impossible to feed any concentrates at a profit. The concentrates were valued at \$1.50 per hundred pounds.



31 July, 1915.

## WESTERN IRRIGATION AGRICULTURE.

Field Notes.

## Scottsbluff (continued)

Table 2 gives the actual feed consumed and the cost of production for the lactation period. It is interesting to note the cost of producing one pound of butter fat for the various animals. It seems that, regardless of the feed the cows consumed or the milk produced, the cows that tested the highest produced butter fat the cheapest. It would perhaps be more fair if the price of butter fat had been the same during the lactation period for each of the cows, but this was not the case. For instance, the animals that were purchased in February, dropped their calves rather late, and since they have been milking the average price of butter fat has been 23 cents, whereas some of the other cows, especially Wonder and Rose, have had the benefit of butter fat as high as 28 cents. This, of course, makes a large difference in the income for each cow.

It has been very interesting to note that since we have discontinued feeding any concentrates the falling off in milk and butter fat is apparently no greater than would have been had we continued feeding the concentrates.

Another feature that was of interest during the month was the pastures on which the cows have been. They consumed more hay during June than any previous month. We cannot account for this. At first we thought that it was perhaps an error in the amount of hay hauled to the cows, but as most of the feed material used on the Farm is checked when weighed and records are kept of every weight there was no chance for a mistake. Of course the hay was new cutting and of splendid quality, and no doubt the cows would have consumed more hay than they would have with poorer quality of hay.

It should be noted that, in both of the tables, the value of the skim milk is disregarded.



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WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

Scottsbluff (continued)

Table 1, record from January 1 to June 30, 1915.

	Wonder	Rose	Marie *	Mabel*	Beauty*	Maud	Stella
Number of days milked	152	165	103	98	98	87	44
Milk, pounds.....	3496.95	4264.10	2708.35	5372.15	2620.20	2395.40	925.05
Milk per day, lbs.	23.4	25.8	26.3	54.8	26.7	27.5	21.0
Average percent fat	4.4	3.5	2.5	2.7	3.4	3.1	4.0
Total fat pounds....	135.27	151.83	70.97	92.88	91.23	75.68	38.29
Total value of fat	\$ 31.29	\$ 36.54	\$ 16.42	\$ 21.37	\$ 21.05	\$ 17.40	\$ 8.73
Average market price of fat.....	25.5¢	24. ¢	23. ¢	23. ¢	23. ¢	23. ¢	25. ¢
Cost of producing pound of fat...	17.8¢	15.9¢	25.5¢	19.4¢	19.3¢	21.4¢	39.6¢
Concentrates consumed ..... lbs..	677.	683.	459.	524.	430.	332.	93.
.....value.	\$ 10.15	\$ 10.24	\$ 6.88	\$ 7.86	\$ 6.44	\$ 4.97	\$ 1.39
Hay consumed, lbs...	4419.	4419.	3295.	3295.	3295.	3295.	4926.
" " , value.	\$ 11.04	\$ 11.04	\$ 8.23	\$ 8.23	\$ 8.23	\$ 8.23	\$12.30
Pasture value .....	\$ 3.00	\$ 3.00	\$ 3.00	\$ 3.00	\$ 3.00	\$ 3.00	\$ 1.50
Profit (+) Loss (-).	+\$ 7.10	+\$12.26	-\$ 1.69	+\$ 2.28	+\$ 3.38	+\$ 1.20	-\$6.46

Table 2, feed consumed and the cost of production for lactation periods.

Cost of producing pound of fat...	13.9¢	14.9¢	19.0¢	15.4¢	13.7¢	14.4¢	13.5¢
Concentrates consumed pounds.....	507.	636.	311.	366.	275.	213.	60.
do Value.....	\$ 7.60	\$ 9.54	\$ 4.66	\$ 5.49	\$ 4.12	\$ 3.19	\$ .90
Hay consumed, lbs...	3251.	4075.	2356.	2356.	2186.	1913.	1107.
" " , value.	\$ 8.12	\$ 10.19	\$ 5.89	\$ 5.89	\$ 5.46	\$ 4.78	\$ 2.77
Pasture, value .....	\$ 3.00	\$ 3.00	\$ 3.00	\$ 3.00	\$ 3.00	\$ 3.00	\$ 1.50
Profit (+) Loss (-).	+\$12.57	+\$13.81	+\$ 2.87	+\$ 6.99	+\$ 8.47	+\$ 6.43	+\$3.56

\*These cows were purchased February 16.



31 July, 1915.

WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

Belle Fourche.

The fall pigs were taken off the alfalfa pasture on July 5 and ten small spring pigs were put on each plat the same day. The small pigs were weighed the first time on July 7. It was thought that a more fair weight of the pigs could be obtained after they had been on the pasture a day or two.

The following table shows the gains and net returns per acre made by the fall pigs since May 5, when they were put on the pasture. The gains are valued at 7¢ per pound, and the corn at 1¢ per pound.

Dates	No. of Days	No. of Hogs	Weights		Gain			Pounds Corn Fed	Net Return Per A
			Initial lbs.	Final lbs.	Total	% Daily	Per Day Per Hog		
Lot 1 - Rotation 65									
5/5-5/14	9	4	499.0	570.0	71.0	1.48	1.97	89.8	\$16.32
5/14-5/24	10	4	570.0	618.0	48.0	.81	1.20	114.0	8.88
5/24-6/3	10	4*	618.0	633.0	15.0	.24	0.37	114.4	- 0.36
6/3-6/12	9	3	477.0	505.5	28.5	.64	1.05	85.5	4.56
6/12-6/22	10	3	505.5	531.0	25.5	.49	0.85	101.1	3.08
6/22-7/2	10	3	531.0	574.0	43.0	.77	1.40	106.2	7.80
7/2-7/5	3	3	574.0	577.5	3.5	----	0.38	34.4	- 0.40
Totals..	61				234.5			645.4	\$39.88
-----									
Lot 2 - Rotation 69									
5/5-5/14	9	5	595.0	690.5	95.5	1.66	2.12	107.1	\$22.44
5/14-5/24	10	5	690.5	737.5	47.0	.66	.94	138.1	7.64
5/24-6/3	10	4	569.0	583.0	14.0	.24	.35	113.8	- 0.60
6/3-6/12	9	3	450.5	489.0	38.5	.91	1.42	81.0	7.52
6/12-6/22	10	3	489.0	523.5	34.5	.68	1.15	97.8	5.72
6/22-7/2	10	3	523.5	555.0	31.5	.58	1.05	104.7	4.64
7/2-7/5	3	3	555.0	560.0	5.0		.55	33.3	.08
Totals..	61				266.0			675.8	47.40

\* One hog was taken out on May 31.

During the week ending July 24, the maximum temperature was 83, minimum temperature 46, and precipitation .05 inch.

All potatoes, corn, sugar beets, and sorghums were cultivated, and all summer fallow was gone over with spring-tooth harrow.

The first Farmer's Picnic was held at the Farm, Saturday, July 24. The attendance was about 400.



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WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

## Belle Fourche (continued)

The second lot of hogs on the alfalfa pasture were weighed on July 19. The following table shows the gains made and the net returns since July 7.

Dates	No. of Days	No. of Hogs	Weights		Gain			Pounds Corn Fed	Net Return Per A
			Initial lbs	Final lbs	Total	% Daily	Per Day Per Hog		
7/7-7/19	12	10	363.5	403.6	39.5	.86	.32	87.2	\$ 7.56
-----									
7/7-7/19	12	10	384.5	421.0	36.5	.75	.30	92.2	\$ 6.52

The net returns in the above table are calculated on the basis of hogs at 7 cents a pound and corn at \$1.00 per hundred.



31 July, 1915.

## DEMONSTRATIONS ON RECLAMATION PROJECTS.

## FIELD NOTES.

## North Platte

Two days of the week ending July 10, were spent visiting the Pig Club members with Mr. McMillian, State Leader in charge of Pig Clubs. About 60% of the members that were enrolled are carrying on the Pig Club work. The Pig Club enrollment for this county is the largest for any one county in the state. There are also more boys carrying out the work in this county than in any other county in the state. About one-half of the Pig Club members have pure bred pigs. Some have only one pig, others have two or three, while others are raising a whole litter. As a whole the work is progressing very satisfactory.

During the week a car load of shoats were secured for the State Serum Plant, to be shipped July 16. The farmers received 8¢ per pound, f.o.b. cars. This is the fourth car of shoats to be shipped from the North Platte Valley to the State Serum Plant.

During the week ending July 17, a visit was made to Lincoln and Omaha, chiefly for the purpose of securing information regarding the cause and cure of an ailment that has been causing more or less loss among the shoats in a few herds on the project. In June, 1914, a call was received from Mr. Whitehead's farm near Mitchell to come out and ascertain the cause of an ailment that was affecting his shoats that were from 3 to 4 months old. The antemortem symptoms were very much like those of hog cholera. The pigs went off feed, there was diarrhea, usually a discharge from the eyes and a rapid loss of flesh, and death sometimes occurred, in from 6 to 21 days. Some times there was a high fever, other times not. On post-mortem examination but few of the minor hog cholera lesions were found and none of the more important lesions. All organs appeared normal except the intestines, which felt somewhat leathery. They were considerably thicker than ordinary, and when they were opened, a yellowish incrustation was found on the inner wall. Occasionally both large and small intestines were affected but as a rule the trouble was confined to the small intestines. Sometimes this extended only a few inches on the inner wall of the intestine. Other times it extended several feet along the intestines. The trouble did not affect the pigs until they reached the age of about 3 months and seemed



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DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes

## North Platte (Continued).

to disappear when they were about 4-1/2 months old. The trouble was found in three herds on the project last year. In one herd of 500 shoats, 50 were lost. In another herd of 250 shoats about 100 were lost. In a third herd of 50 shoats, 7 were lost. The trouble disappeared during the winter months, but recently broke out in Mr. Whitehead's herd again. The trouble seemed to be more serious than last year. At one time 50 out of 250 shoats were affected.

Last year an effort was made to find out the cause of the trouble. Specimens were sent to Lincoln and Washington and two rather prominent veterinarians visited the affected herds. With one exception the trouble was called cholera, though most of the cholera lesions were absent. However the symptoms did not resemble to a great extent the ordinary symptoms of cholera found on the project, so it was not thought worth while to vaccinate the sick herds. When the trouble appeared again this summer, it was thought advisable to have the trouble looked into more carefully. Therefore two of the affected shoats were shipped to Lincoln together with a number of specimens that had been collected. These were examined by the State Veterinarian, his assistant and at the Pathological Department of the University. However they were unable to diagnose the trouble. Later the services of Dr. A. L. Kinstry of Kansas City, was employed. He was familiar with the trouble, which seems to be a comparatively recent one, and said that the trouble was caused by the same germ that causes canker sore mouth in pigs, only for some cause it affects the intestines. On account of it having been discovered only recently, no successful treatment has been found. However, Dr. Kinstry suggested that potassium permanganate be placed in the drinking water, about 1-1/2 ounces to 50 gallons water.

Several days before the potassium permanganate treatment was suggested, the following mixture was given in a self-feeder to Mr. Whitehead's shoats:

1-1/2 bushels of soft coal, slacked  
10 pounds salt  
10 pounds air slacked lime  
4 pounds sulphur  
3 pounds pulverized copperas.



# DEMONSTRATIONS ON RECLAMATION PROJECTS.

## Field notes.

### North Platte (Continued)

This seemed to check the trouble at once. No more shoats contracted the disease and those that were affected seemed to get better. The diarrhea was stopped and the appearance of the shoats greatly improved. Since then, the potassium permanganate water has been added and the shoats continue to improve. The week before the treatment was started, 10 shoats were lost. Since then, three have died and they were pigs that were in very bad condition when the treatment was started.

The above treatment will be continued in Mr. Whitehead's herd all summer as there will be herds of shoats coming on all the time. If no trouble is noticed in the pigs that are now coming on, it would indicate that the treatment has the desired effect. Should the trouble start in other herds this treatment will be tried on them.

The second weights on J. W. Lambertson's 40 spring shoats was taken on the 17th. The weights and gains are given below:

Date first weighed.....	June 12
Date second weighing.....	July 17
Total days between weighing periods.....	35
Total initial weight (pounds).....	1365
Average initial weight (pounds).....	34.1
Average age at initial weighing (weeks).....	10
Final weight (pounds).....	2343
Average final weight (pounds).....	58.5
Total gain (pounds).....	978
Average total gain (pounds).....	24.4
Average daily gain (pounds).....	.72
Value of gains at 7 cents per pound.....	\$68.46
Corn fed (pounds).....	1892
Shorts fed (pounds).....	750
Total grain fed (pounds).....	2642
Pounds of grain per pound of gain.....	2.7
Cost of corn fed, 1500 lbs. \$1.36 cwt., 392 lbs. at \$1.45 cwt.....	\$25.48
Cost of shorts fed, 750 lbs. at \$1.55 cwt.,...	\$11.62
Total cost of grain fed.....	\$37.10
Net return from 5 acres alfalfa.....	\$31.36
Grain cost per 100# gain.....	.0385
Net returns per acre of alfalfa.....	\$ 6.25



31 July, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes

## North Platte (Continued).

These shoats had access to a 5-acre alfalfa pasture which could have carried several more shoats. In view of this and the high cost of grain, the return of \$6.25 per acre in five weeks is considered very satisfactory. The demonstration will be continued until September 1, when the shoats will be weighed again. After September 1, the bunch will be divided, a part of them to be fattened and the others to be kept for brood sows. An account will be kept of the fattening operations.

## Huntley.

During the week ending July 17, blackleg was discovered on Mr. Clark's farm near Osborn. One calf died on Sunday July 11. The following day eight calves were vaccinated for Mr. Clark, and during the week practically all the calves in this neighborhood were vaccinated, the work being done in most instances by the owners of the stock.

Three cases of swine sickness were investigated during the week. The sick animals showed some symptoms of cholera, having a high temperature and scouring badly, but none of the other characteristic cholera symptoms was present. Dr. Smith of Billings was consulted and a post mortem was held on one of the pigs that had died. Nothing that would indicate cholera was found, but the stomach and intestines were somewhat inflamed, probably due, in Dr. Smith's opinion, to the feeding of green beet tops. The symptoms in all three of the herds examined are the same. A treatment of oil and carbolic acid was prescribed.

Four swine herds were treated for lice during the week, and a pig feeding demonstration was started with Mr. Graham.

Seventeen farm visits were made during the week.

During the week ending July 24, two cases of hog cholera were found on the project. In one herd the disease acted slowly, only four pigs dying in about two weeks, and post mortem on the first hogs which died showing no cholera lesions. On examination of the fourth dead hog, very characteristic cholera lesions were found. In the second herd, the disease seems very virulent, eight hogs having died out of a herd of 26, in 3 days. Post mortem examination showed very character-



DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

Huntley (Continued).

istic cholera lesions. These two herds and a third herd, which was not infected but which had been exposed, were vaccinated, 68 hogs in all. Dr. N. B. Smith, Deputy State Veterinarian assisted both in diagnosing the cases and in vaccinating the hogs.

During the week a pig feeding demonstration was started with Mr. Plato Pickens. Fifty-five pigs averaging 51 pounds each were weighed up and placed on rye which was about ready to harvest. They will be allowed to hog off a measured area of this rye until the spring wheat is ready for them. They will then hog off an area of spring wheat. From the wheat they will be placed on peas and from the peas they will go on to corn. The area of each crop that will be allowed to hog off has not yet been determined; but each area hogged off will be accurately measured and the amount of gain made on each crop will be determined. In addition to the grain crop, the pigs will be allowed to run on a good alfalfa pasture.

Twenty five milk samples were tested during the week.

On July 24, a well attended farmers picnic was held at the experiment farm.

Dairy produce was sold from the Huntley Project during the month of June approximately as follows:

Butterfat.			Whole Milk		Sweet Cream		Butter		Cheese		Total
Pounds	Price	Value	Gal.	Value	Gal.	Value	Pounds	Value	Lbs	Val	Value
3750	22 ¢	\$825.	390	\$78.50	370	\$370.	1900	\$418.	200	\$30	\$1721.50



31 July, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

## Shoshone.

During the week ending July 17 one man called at the office, nineteen visits were made to farmers, milk was tested for one man, one man was assisted with a plan of re-arranging lots, one man was consulted concerning the treatment of hogs for lice, and one man was assisted in making alfalfa silage.

Some of the farmers have their first cutting of alfalfa still in the field. It is in the cock and the second cutting is growing fast. In many places these cocks have almost killed alfalfa under them. This condition was caused largely by the frequent showers.

One man sowed 150 pounds of Canada field peas and 150 pounds of wheat June 1 on 2-1/2 acres, for hogs. The crop is looking fairly well.

One silo was filled with alfalfa this week. The first cutting had been saved and six acres were required to fill a 55 ton silo. About a day was required to fill it with one man on the mower, one pitcher in the field, four men hauling about 200 yards, two men to run the engine and feed, and two men in the silo. The silage settled very little.

One man reported that from the time that his sows were bred till they farrowed May 1, 1915, a barrel of molasses and a ton of alfalfa meal costing, together, \$14.00, carried fifteen sows twenty days and kept them in excellent condition. The sows which farrowed on alfalfa pasture were given no other feed after they farrowed and are in good condition at present. The 115 pigs which these sows have raised are getting almost a pound a day of whole corn and oats and are on excellent alfalfa pasture. They are in excellent condition, weighing about 50 pounds

## Tieton.

During the week ending July 17, ten farm surveys were made and the cow testing work was fairly well started. The warm weather is having its effect upon the quality of cream that reaches the creameries and some time was given to better methods of handling cream on the farms.

The difference between pigs receiving grain with their alfalfa pasture and those on pasture alone is beginning to become easily noticeable. One owner in particular who did not buy grain for this purpose earlier in the season and who has been waiting for his corn crop to mature will probably buy grain



31 July, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

## Tieton (Continued).

for the shoats that he wishes to market in September. This lot was weighed on May 25 and will be reweighed before grain feeding is commenced.

A 60-acre orchard produced an excellent crop of medium clover hay and is now in fine condition to produce a crop of clover seed. Very little alfalfa and clover seed has been produced on the project although present indications are that both seeds will "fill" well this year.

Mr. Alexander, who has been pasturing cows on alfalfa with good success thus far, was taken to see Mr. Charlton whose experience has been less favorable. Mr. Charlton lost a good cow from alfalfa bloat this month, his first loss in 3 years. Both men are favorable to mixed grass pastures.

Although the closest co-operation will be required between water users in the Yakima valley in order to get through the season with the exceptionally low water supply, it is believed that the Tieton supply is sufficient. A very large acreage of grain has been laid by on the Tieton and more water is now available for corn and alfalfa.

The average prices paid per pound for butterfat by the Bradner Creamery Company, North Yakima, from January 1, 1912 to July 17, 1915, are shown in the following table:

	1912	1913	1914	1915
January.....	37.6 ¢	37.2 ¢	33.9 ¢	28.5 ¢
February.....	33.5	37.	33.	29.2
March.....	33.7	37.5	28.6	30.9
April.....	30.4	33.	25.7	24.
May,.....	28.4	27.8	24.	22.6
June,.....	28.5	29.	24.	24.
July,.....	28.9	29.	24.	25.6 to date
August,.....	30.7	31.9	24.	
September,.....	32.8	33.8	34.	
October,.....	34.	34.	34.	
November,.....	34.9	34.2	34.	
December,.....	36.9	36.6	32.8	



DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

## Tieton (Continued).

Eleven farm surveys were made during the week ending July 24, in connection with visits made primarily to promote daily record work.

The Yakima city creamery has made several loans on dairy cows. A majority of the farmers have profited by this service. In a few cases, however, the loan has been a distinct harm. Several instances have been reported in which the farmer who secured the loan bought "tailended" or discarded cows from professional stockmen or from neighboring dairymen. An attempt will be made to be of service to prospective buyers who are not competent judges of dairy cows. The idea of co-operative buying is always mentioned in case a farmer expresses a desire to buy cows.

Butterfat is now worth 26 cents per pound at the farms. Grain fed hogs, 175 to 250 pounds, are selling at \$6.50. Hogs pastured on alfalfa and fed some grain usually sell as "grainfed".

Mr. Swanson recently sold 81 shoats, at eight months, weighing 160 to 200 pounds for \$7 to \$7.50. The 12 sows raising these pigs were each fed 3# of grain daily for about 4 weeks. From the end of this first month to the time they were sold the 81 pigs averaged 1-1/2# gain each daily. The total grain fed was 26,595 pounds at an average cost of 1-3/4 cents. Total cost of feed was \$465.41. In addition to grain, Mr. Swanson fed \$64 worth of potatoes (culls at \$2 per ton). Total cash outlay was therefore \$529.41. The 81 pigs brought \$835 when sold. There is left \$305.50 for alfalfa hay and pasture. There is no reliable account of the value of the alfalfa consumed. This summary does not deduct the maintenance of 12 sows for a period of 4 weeks, at least.

## Minidoka.

On Sunday and Monday of the week ending July 17, the Project was visited by Mr. Marshall and Mr. McWaters of the Bureau of Animal Industry. Visits were made to a number of farms, especially to those making a success of sheep raising on the Minidoka Project and the Twin Falls Tract.

Cholera seems to have abated on the Project once more. Most of the calls now received relate to an improper feeding



31 July, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

## Minidoka (Continued).

system. While the older hogs do well on alfalfa pasture alone-providing that the pasture is first class - many young pigs are being lost from this system of feeding. The stomach becomes distended to such an extent that it cannot carry on it's usual functions, inflammation sets in and the pig soon dies. - This condition is usually accompanied by scours, although, in a few cases, constipation is the result. On one farm recently visited seven pigs had died within 2 days from this cause. On the other hand two cases have been found where the pigs are over fed. On one farm visited this week, 52 pigs weighing from 35 to 45 pounds were being fed 20 gallons of skim milk and a sack (100 lbs.) of grain a day. The pigs were sluggish, their paunches distended and they lay around continually refusing the pasture provided. The dung was foul. A change in the feeding system in which some of the grain and skim milk was given to the older hogs was suggested and carried out. A telephone report later states that the whole herd seems to be doing much better already.



7 August, 1915.

## WESTERN IRRIGATION AGRICULTURE.

## FIELD NOTES.

## San Antonio.

The maximum temperature for the week ending July 24 was 101 and the minimum 60, precipitation .02.

Soil samples on the cotton plats in the rotation experiments were taken. Hauling of the first cutting of sorghum was commenced and the yields this season will be good although not quite as high as they were last season. Plowing of the milo plats was partially completed. The soil is very dry making plowing difficult and slow.

Varieties of beans planted on B3 were thrashed and the following yields obtained:

Variety	Disance apart of rows.	Yield, pounds per acre
California Pink.....	2 feet	420
" " .....	3 "	247
California Bayo,.....	3 "	No yield.
Tepary,.....	3 "	403
Kidney,.....	3 "	49.5
Blackeyed Peas,.....	3 "	193

The Smyrna flax on B3 was thrashed and the yield obtained was at the rate of 11.9 bushels per acre.

Dwarf milo from the rotation plats was thrashed and the following yields obtained. The yields are the lowest obtained since milo has been grown here, due partly to midge damage and partly to damage by birds.



7 August, 1915.

## WESTERN IRRIGATION AGRICULTURE.

Field Notes.

San Antonio (Continued).

Dwarf milo from the rotation experiments, 1915.

Plat	Yield per plat		Yield per acre	
	Straw Lbs.	Grain Lbs.	Straw Lbs.	Grain Lbs.
A4-14	1012	303	4048	21.6
A4-18	1171	326	4684	23.3
A5-3	1204	362	4816	25.9
A5-6	1300	433	5200	30.9
A5-7	1228	471	4912	33.6
A5-11	1250	556	5000	39.7
A5-15	1250	414	5000	29.6
A6-1	1024	222	4096	15.9
A6-2	1354	369	5416	26.4
A6-6	1352	229	5408	16.4
A6-14	1389	75	5556	5.4
B-4-14	1152	254	4608	18.1
B4-17	1154	299	4616	21.4
B5-18	1144	156	4576	11.1
Average	1213	319.2	4852	22.8

Truckee-Carson.

During the week ending July 24, the maximum temperature was 99, minimum temperature 48, and precipitation .00.

The work of laying 10-inch tile from the drainage sump to the U. S. Reclamation Service drain was completed.

The second crop of alfalfa was cut from all fields. Suckers and stalks were removed from the plot of Northwestern Dent corn on H-1, leaving two stalks in each hill. The sorghum varieties on D-6-7-8 were cultivated. The barley varieties on the farm of H. C. Smith were cut and shocked.

Since a change in the drinking water has been made, the hogs in the pasture experiments have made increased gains, the per cent. daily gain each week being as follows:

Week ending July 10	(Bad water)	.48%	daily gain
" "	" 17, (Good " )	.68%	" "
" "	" 24 (Good " )	.73%	" "



7 August, 1915.

WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

## Truckee-Carson (Continued).

The daily net return per acre during the week ending July 24, was 53 cents, while the daily net return per acre for the entire period May 16 to July 24 was 33 cents. A table showing the results in detail for the two weeks ending July 24 and for the entire period of pasturage is shown in accompanying table.

## Ninth Period July 10-17 ( 7 Days).

	Durocs	Berkshires	Total
Number of hogs,.....	5	5	10
Initial weight, pounds,.....	317.5	238.5	556.0
Final weight, pounds,.....	333.0	250.0	583.0
Total gain, pounds,.....	15.5	11.5	27.0
Daily gain, pounds,.....	2.22	1.64	3.86
Daily gain per acre, pounds,.....	17.7	13.1	15.4
Per cent. daily gain,.....	.68	.68	.68
Barley fed, pounds,.....	44.4	33.4	77.8
Cost of barley at 1-1/2 cents,.....	.67	.50	1.17
Value of gain at 7 cents,.....	1.08	.81	1.89
Net return,.....	.41	.31	.72
Daily net return per acre,.....	\$ 0.47	\$ 0.35	\$ 0.41

## Tenth Period, July 17-24 (7 days)

	Durocs	Berkshires	Total
Number of hogs,.....	5	5	10
Initial weight, pounds,.....	333.0	250.0	583.0
Final weight, pounds,.....	349.5	264.0	613.5
Total gain, pounds,.....	16.5	14.0	30.5
Daily gain, pounds,.....	2.36	2.00	4.36
Daily gain per acre, pounds,.....	18.8	16.0	17.4
Percent. daily gain,.....	.69	.78	.73
Barley fed, pounds,.....	46.6	35.0	81.6
Cost of barley at 1-1/2 cents,.....	.70	.52	1.22
Value of gain at 7 cents,.....	1.16	.98	2.14
Net return,.....	.46	.46	.92
Daily net return per acre,.....	\$ .53	\$ .53	.53



7 August, 1915.

WESTERN IRRIGATION AGRICULTURE.  
Field Notes

Truckee-Carson (Continued).

All Periods, May 16 - July 24 (69 Days).

	Durocs	Berkshires	Total
Number of hogs,.....	5	5	10
Initial weight, pounds,.....	224.0	166.0	390.0
Final weight, pounds,.....	349.5	264.0	613.5
Total gain, pounds,.....	125.5	98.0	223.5
Daily gain, pounds,.....	1.82	1.42	3.24
Daily gain per acre, pounds,.....	14.5	11.4	12.9
Per cent. daily gain,.....	.65	.67	.66
Barley fed, pounds,.....	383.6	285.8	669.4
Cost of barley at 1-1/2 cents,.....	5.75	4.29	10.04
Net returns,.....	3.04	2.57	5.61
Daily net return per acre,.....	\$ 0.35	\$ 0.30	\$ 0.33

Huntley.

During the week ending July 24, the maximum temperature was 94, minimum temperature 42, and precipitation .05.

The annual Farm picnic was held on the 24th. About 600 people were in attendance. Speakers at the meeting were Professors Atkinson and Cooley of the Montana State Station, Senator H. L. Meyers, and several local and Billings people. There appeared to be much interest in the work of the farm and several farmers expressed their intention of returning in the near future to go over the work more closely.

Yields of the first crop of alfalfa and sweet clover in Field M (Worden Tract) are as follows:

Plat Number	Crop	Tons Per Acre
M-1-3*	Sweet Clover	3.09
M-1-12*	Alfalfa	1.78
M-1-A-3	Sweet Clover	2.01
M-1-A-12	Alfalfa	.60
M-11-1*	"	1.89
M-11-3*	"	1.61

\* On these plats two crops of rye green manure were plowed under in 1911 and 1912.



7 August, 1915.

WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

## Huntley (Continued).

Plat M-1-A-3 and 12 are on land adjoining the same numbered plats in M-1 and were broken up from native sod in 1913 and planted in 1914.

The following table gives the depths of ground water in the Worden tract since January 1, 1915:

Date	Well #A-1	Well #A-2	Well #A-3	Well #B-1	Well #B-2	Average 5 Wells
1-1	3.46	3.69	3.86	3.81	3.95	3.75
1-15	3.55	3.86	4.02	3.88	4.06	3.87
2-1	3.43	3.59	3.72	3.99	4.35	3.75
2-14	3.31	3.65	3.80	3.54	3.89	3.62
3-1	2.61	2.97	3.50	3.78	2.86	3.14
3-15	2.07	2.52	3.28	3.14	3.34	2.87
4-3	1.87	2.25	2.79	2.76	3.94	2.72
4-15	2.42	2.74	3.20	3.12	3.43	2.98
5-3	2.81	2.64	2.64	3.10	2.72	2.78
5-15	2.43	2.74	3.25	3.11	3.30	2.96
6-3	.01	.50	1.24	1.03	1.53	.86
6-10	1.66	1.06	1.95	2.48	1.82	1.59
6-15	.86	.65	1.36	2.14	1.58	1.33
7-4	1.65	1.59	2.33	2.09	2.22	1.97
7-15	2.43	2.77	3.02	3.13	3.54	2.97

The open drain running through the Worden Tract has recently been deepened to about 10 feet by means of a drag line dredger. This is responsible for the marked fall in the water level since July 1. The drainage work is being done by the Reclamation Service. Work is to be started soon on a tile drain beginning at the open drain in the northeast corner of the tract and extending west along the north side of the farm.

Mr. Scofield left here on the 19th for Mandan and Minneapolis. Other visitors during the week were Prof. E. C. Chilcott, J. S. Cole, W. W. Burr, and Mr. Marshall of the Bureau of Animal Industry.



7 August, 1915.

WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

Huntley (Continued).

Work on Field K.

All potato plats were sprayed for the third time, with two and one-half pounds of Paris green to 50 gallons of water.

Roadways and alleys were cleaned; beet plats were ditched, and potato plats were cultivated. First year alfalfa plats were irrigated for the first time and flax was irrigated for the second time. Oat plat K-V-17 and wheat plat K-V-18 were rouged of wild oats.

The fall pigs on pasture experiment on rotation 67 were taken off on July 14 and eight spring pigs were put on in their place.

The following tables give a summary of hog experiments from January 5, 1915 to July 14, 1915:

Fall pigs in feed lot, January 5th to April 24th.							
Number Pigs	Number Days	Initial Weight	Gain	Av. Daily Gain	Feed (Pounds)		
					Corn	Wheat	Alfalfa
5	110	412	377	3.42	61.7	61.7	770

Pigs were fed 1% ground wheat, 1% shelled corn and 7 pounds alfalfa hay per day.

Considering the price of wheat and corn to be \$1.00 per cwt., alfalfa \$6.00 per ton, and pork 7 cents per pound live weight, the following profit was made:

377 Lbs. pork at \$.07.....	\$26.39
61 Lbs. corn at \$1.00 per cwt.,..	\$6.17
61.7 Lbs. wheat at \$1.00 per cwt..	.617
770 lbs. alfalfa at \$6.00 per ton.	2.310
	3.54
	\$22.85



7 August, 1915.

WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

Huntley (Continued).

Hogs on alfalfa pasture.

Period	Number Hogs	Number Days	Initial Weight	Total gain Pounds	Gain per day. Lbs.	Daily returns Per Acre.
4/24-5/24	5	30	789	105	3.5	\$ 0.36
5/24-7/14	4	50	714	209	4.18	0.58

On May 24th, one hog was taken out of the pasture on account of the slow growth of the alfalfa. This hog was put in feed lot and fed on 3% corn ration.

Single hog on feed lot, May 24 to June 4 on 3% corn.

Number Hogs.	Number Days	Initial Weight	Gain	Av. Daily Gain	% Daily Gain	Feed Consumed Corn
1	10	180	18	1.8		54.00
June 4 to July 14 on 3.5% corn.						
1	40	198	65	1.62		305.5

83 Lbs. pork at 7 cents,.....\$5.81  
359.5 Lbs. corn at \$1.00 per cwt.,..... 3.59  
\$2.22

On July 14th, 4 hogs were taken off alfalfa pasture in Field K and put on 3.5% corn ration, along with single hog reported on in the above table. On the same date eight spring pigs, averaging approximately 38 pounds each, were put on alfalfa pasture and given 2% corn ration.

Scottsbluff.

The weather during the week ending July 31, was very wet. Very little farm work was done during the week on account of the rain. The stack of hay that was half completed last Friday is badly spoiled. This is about the first time that hay was so completely spoiled in the cocks in the field. A large quantity of hay is down at this time.



7 August, 1915.

WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

## Scottsbluff (Continued)

We began to cut the barley varieties, but are afraid that there will be about 20 per cent. loss of these varieties on account of lodging. Some of the barley is flat on the ground. The oats varieties, although still green, may stand up to some extent, but at the present time a large portion looks as though a roller had gone over them. Although the outlook was very bright for exceptionally large yields this year, we doubt very much if some of them will come up to last year's yields on account of the rain.

## Belle Fourche.

During the week ending July 31, the maximum temperature was 81, minimum temperature 49 and precipitation 1.37.

During the week all the alfalfa was cut in the irrigated rotations, and in the time, method of seeding, and dry land alfalfa tests. The alfalfa in fields I, K, O and P was irrigated. The wheat, oats, and flax in the fall irrigation experiment, and all grains in the variety test, were irrigated.

The rains of Friday and Saturday nights lodged the grains badly.



7 August, 1915.

## DEMONSTRATIONS ON RECLAMATION PROJECTS.

## FIELD NOTES.

## Minidoka.

The entire week ending July 24 was spent in answering requests for visits. Of the 15 calls received, 4 were to inspect sick hogs, 3 to visit dairy farms and discuss problems in management, 2 to test cows for production, 3 to visit farms and criticize the system of handling the hogs, 2 to give suggestions for disinfecting cholera infected farms and 1 to discuss a permanent pasture system for a hog and dairy farm.

In the vicinities of Heyburn and Burley where the hail damaged the first crop of alfalfa, the second cutting is being cut. The yield for the second cutting is very good, being the best ever known in this section. It is being cut from 16 to 21 days earlier this year than last.

Range sheepmen are trying to contract for this year's crop of hay at \$5.00 per ton. But very little is being sold as most of the farmers are holding for \$6.00.

Butterfat is selling for 20 cents. The price of hogs for this week was \$5.90.

## Tieton.

Seven surveys were made during the week ending July 31. One herd of 55 hogs were treated for lice, boars castrated and shoats "rung" and a plan for better management and feeding suggested. Milk scales which were bought cooperatively were distributed and others belonging to the department were loaned for short temporary periods.

One new hog-feeding demonstration, in which several sows and young pigs will be fed alfalfa hay and shorts slop, was begun. Another demonstration in which the value of skim milk for pigs on pasture will receive the chief consideration was planned and will be taken up as soon as adequate fencing can be arranged.

The plans of a horse and cow stable now being built were discussed and suggestions as to ventilation, light, floors and milk room were made. Inasmuch as the owner appreciates the value of stable manure emphasis was laid upon the natural convenience of the side hill location for the storage of both liquids and solids.

Four new dairy herds will go on test as a result of visits made during the past week. One herd will be in connection with the "skim milk pigs" demonstration previously mentioned. Three of these herds will be tested for weekly periods each month.



DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

Truckee-Carson.

The following notes are taken from Mr. Cline's report for the month of June:

"A great many ranchers have planted small fields of corn, which is making a good growth. It is expected that as soon as suitable varieties are found for this locality corn will be quite extensively grown here, and silage corn for dairy feeding will have a prominent place in the cropping system. The wheat and barley crops have a larger acreage than usual and the general condition of the crop is considered excellent.

"During the month of June there were 83 dairy females of producing age imported to this project from the Cache Valley, Utah, by the Churchill Creamery Company. Included in this shipment was one pure bred Holstein bull. The female animals imported were as follows: 63 Holsteins, 6 Jerseys, 6 Guernseys, and 8 Short Horns. From these figures it is seen that the Holsteins predominated in this importation. This has been characteristic of practically all the recent importations. There is some danger that some ranchers lacking in dairy experience and in judgement of dairy animals are likely to select inferior Holsteins in preference to better individuals of other breeds, because of the universal sentiment for Holstein cattle at this time. The average price paid by the ranchers for these cattle was \$104. per head. Most of these cattle were in the first to the third lactation periods. There is a constantly growing sentiment for the dairy industry, and the increase in butterfat production is very marked as shown by the June report of the local creamery company.

"During the month of May the Churchill Creamery Company purchased 17,905 pounds of butterfat, while the June report shows 24,767 pounds. The average price for June was 24.88 cents per pound, as against 23.05 cents per pound in May, making a net increase in the amount paid for butterfat of \$2,038 for one month. The total paid for butterfat in June was \$6,164.

"The usual climatic conditions prevailed during the month of June. The average day temperature for the month was 82.40 with a maximum of 94. The average night temperature was 44.7 with a minimum of 37. There was no precipitation during the month and no cloudy days. The total evaporation for the month was 10.988 inches. The average wind velocity was 5.4 miles per hour.



17 August, 1915.

## DEMONSTRATIONS ON RECLAMATION PROJECTS.

Field Notes.

## Truckee-Carson (continued)

"A numerical statement of the principal activities during the month of June is given below. These figures cover only 17 days of the month, 13 days having been spent off the project."

Number of calls for assistance.....	74
" " " answered.....	74
" " visits to farms.....	32
" " telephone calls.....	32
" " visits to office.....	27
" " consultations with farmers in town.	15
" " communications by letter.....	56
" " visits to local creamery.....	4
" " circular letters issued.....	2

## North Platte.

The table below shows the shipments, average prices and receipts for hogs in the North Platte Valley during the 12 months ending June 30, 1915, according to the monthly reports submitted by Mr. Jones:

Month	Number of cars	Average price per cwt, f.o.b. Valley points.	Receipts
July, 1914.....	13	\$ 8.45	\$19,700.
August, " .....	14	8.50	21,620.
September, 1914.....	27	8.30	40,338.
October, " .....	28	6.80	34,272.
November, " .....	25	6.90	31,050.
December, " .....	28-1/2	6.60	33,858.
Jan., 1915.....	37	6.30	41,958.
February, 1915.....	56	5.85	58,968.
March, 1915.....	31	6.42	35,815.
April, " .....	16	7.15	20,590.
May, " .....	29	7.35	38,367.
June, " /.....	22	7.25	28,610.
Total.....	326-1/2	\$ 6.89	\$405,146.



14 August, 1915.

## WESTERN IRRIGATION AGRICULTURE.

## FIELD NOTES.

Yuma.

During the week ending July 17, the maximum temperature was 105, minimum temperature 58, and greatest daily range 46.

Seedling dates transplanted to Road 8 were Thoory, 155 and Tafiilet, 230.

Seven acres of experimental blocks of alfalfa were harvested. Hoeing and cultivating continued throughout the week. Cotton on E-1 was thinned and grain sorghum planted to D-37.

The tile drain from the farm septic tank became clogged making it necessary to clean the tank and dig out a great part of the drain tile. This is the first attention, however, required by this tank since its construction.

Work on the new pump house was completed. The power of a small engine will be utilized for driving several small machines in this building. Two new two-inch wells were driven for the station domestic water supply.

Two sets of double work harness were purchased. Requests for bids were also issued to purchase a L-K-W direct current generator to supply power for electric fans during a few hours of the heat of the day through summer months.

Mr. Peterson made a one day trip to Imperial Valley to plant a cooperative corn experiment near El Centro.

During the week ending July 24, the maximum temperature was 107, minimum temperature 71, and greatest daily range 30.

A great deal of hoeing and cultivating was accomplished. Alfalfa from several fields was harvested.

Grain sorghums on borders D-8 and 9, 11 and 12 were thinned, also were cotton plantings on A-7 and B-26-27.

The earliest crops of alfalfa seed on the Project are being harvested. This largely represents fields that had no first hay crop harvested and only fair to poor yields will be secured.

Early cotton has been flowering for several weeks. Plant lice that infested many cotton fields so heavily last year are not in evidence this season; neither are melon aphids normally abundant at this season. An abundance of lady bugs is likely the explanation of the control of these parasites.

Late plantings of grain sorghums have developed good stands and are making excellent growth.



14 August, 1915.

## WESTERN IRRIGATION AGRICULTURE.

Field Notes.

## Yuma (continued)

Messrs. G. N. Collins and J. H. Kempton spent several days at the station in study of Indian corn varieties. Mr. Argyle McLachlan also spent several days at the station.

During the week ending July 31, five extra men were employed to hoe and work irrigation ditches and date plantings. A new shingle roof was laid on the power and gin house.

The main efforts during the week were directed to cultivating and hoeing cultivated crops and borders and cleaning and bettering the irrigation system.

Some hay was harvested and a test of bean varieties was planted on A-10-5.

Local ranchers are now in the midst of alfalfa seed harvest. The later crops of alfalfa stand for seed are making far better production than the early crop. Crops in Yuma Valley have so far not been injured by the infestation of grasshoppers that have appeared in great numbers in certain parts of Imperial Valley.

## Truckee-Carson.

During the week ending July 31, the maximum temperature was 97, and minimum temperature 44.

Work was continued in the construction of the septic tank. The laying of the line of 10-inch tile from the drainage sump to the U. B. R. S. drain was completed. A weir was inserted near the sump so that the amount of water discharged from the drainage system can be calculated.

The grasshopper catcher was used on some of the fields with fair success. Certain improvements were made which greatly increased its ability to catch and hold the hoppers.

Mr. Headley made a trip to Reno by auto on the 29th returning the 31st. Seeds of Amygdalus andersonii were collected near Reno. Arrangements were made with Mr. C. A. Norcross, the present head of the Extension Department, by which Miss Davis will give public tomato canning demonstrations at the experiment farm soon after September 1. The tomatoes grown in the variety tests will be used.



14 August, 1915.

WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

Umatilla.

The maximum temperature during the week ending July 31, was 92, the minimum, 59 and the greatest daily range 25. On Thursday a rain of .48 inch fell.

Lysimeter results after irrigation of July 20.

Lysimeter Number	Inches Applied	Grams Applied	P.P.M. Salts in Irrigation water	Grams Percolate	P.P.M. Salts in Percolate	Percent of water Recovered
1 Check	1.5	38529	257*	18797	242	48.8
2 Soy Beans	1.5	38529	257	16348	190	42.4
3 Alfalfa	1.5	38529	257	6694	250	17.4
4 Alfalfa manure	1.5	38529	257	6200	414	16.0

After irrigation of July 26.

1	1.5	38529	79*	21538	240	55.9
2	1.5	38529	79	10981	220	28.5
3	1.5	38529	79	4567	253	11.9
4	1.5	38529	79	3860	453	10.0

\*Well water was used for this irrigation.

San Antonio.

The maximum temperature for the week ending July 31, was 100, and the minimum 72. On the 26th and 27th there were showers amounting to 0.56 inch.

The soil is very dry now and cotton is being severely affected by the dry weather.

Plowing of the milo plats in the rotation experiments was completed. All cotton and sorghum fields were cultivated after the rain. Laguna seed corn for next season's planting and distribution was selected the latter part of the week.

Mr. D. A. Saunders and Mr. Hasselfield spent Friday and Saturday at the farm harvesting Texas corn varieties. The farm selection of Laguna proved to be among the best yielding varieties.



14 August, 1915.

WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

## San Antonio (continued)

The following tables give the yields of sorghum from the various plats.

8" Drills		
Plat	Yield per Plat Pounds	Yield per Acre Tons
A-4-11	2165	4.33
-15	1107	2.21
B-4-12	2243	4.49
-13	1858	3.72
B-5- 6	1710	3.42
-12	2104	4.21
-16	2557	5.11
Average	1963	3.93

4.1 foot Rows		
A-4- 9	1232	3.08
A-6- 4	1244	2.49
B-5- 5	1598	3.19
-10	1684	3.37
-14	1880	3.76
Average	1528	3.18

## Treatment

Not. Cult	687	3.44
Cult.	705	3.53
Broadcast	1048	5.24

## Huntley.

Frequent showers during the week ending July 31, prevented doing much field work and delayed harvesting the second crop of alfalfa. An unusually severe rain and wind on the 31st caused lodging of a large part of the grain on the irrigated land. Hail is reported to have damaged crops to a large extent on the Billings bench and on the bench land southwest of Huntley.



14 August, 1915.

WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

## Huntley (continued)

Harvesting of barley in field L-II was started.

Because of the large amount of rainfall, irrigation of beets has not been necessary yet.

The pasture of mixed grasses on the three one-quarter acre plats in field A-II on which two cows have been pastured since April 28 is holding up in good shape. The cows were off the pasture seven days during this time, on account of stormy weather. The half of each plat that was top dressed with manure last winter is showing a marked favorable difference in growth. Each part of the pasture has been irrigated five times so far this season. Cow number 1, in this test freshened in October, 1914 and cow number 2, freshened on June 25, 1915. From the beginning of the pasture season to June 1st, the cow giving milk was fed six pounds of chopped corn per day. From June 1 to 15 she was fed 6 pounds of chopped corn and oats of equal parts. During the last half of June no grain was fed. During the first part of July, both cows were fed grain, each 6 pounds of chopped corn and oats per day, and during the last half of July no grain was fed.

In the following table is given the record of the cows since June 1:

Average amount of milk, pounds, daily and butterfat %							
No.	June 1 - 15		June 15-30		July 1-15	July 15-30	
	Milk	Butterfat	Milk	Butterfat	Milk	Milk	Butterfat
1	23.1	5.1	20.3	4.8	20.6	19.9	5.8
2					27.65	26.0	2.6

Weights of Cows			
No.	7-1	7-15	8-1
1	892	870	884
2	940	886	884

Dr. W. A. Taylor, Chief of the Bureau, visited the station on the 30th, leaving on the morning of the 31st.



14 August, 1915.

## WESTERN IRRIGATION AGRICULTURE.

Field Notes.

## Belle Fourche.

During the week ending August 7, the maximum temperature was 82, minimum temperature 50, and precipitation .34 inch.

The hauling of alfalfa in field A and rate of seeding test in field I was completed.

All potatoes and beets have been furrowed for irrigation and corn cultivated.

The harvesting of barley, winter wheat, rye, and sixty day oats has been commenced.

Mr. Champlin of the Experiment Station at Brookings, South Dakota, and Mr. Rudolph of the Dakota Farmer, visited the station on Saturday.

The following table shows the gains made by the spring pigs for each period since July 7, when they were turned on the alfalfa plats.

Dates	No. of Days	No. of Hogs	Weights		Gain			Pounds Corn Fed	Net Return Per A.
			Initial lbs.	Final lbs.	Total	% Daily	Per Day Per Hog		
Rotation - 65.									
7/7-7/19	12	10	363.5	403.0	39.5	.86	0.32	87.2	\$ 7.56
7/19-7/29	10	10	403.0	452.5	49.5	1.14	0.49	80.6	10.64
7/29-8/7	9	10	452.5	474.0	21.5	.51	0.23	81.4	2.76
Totals...	31				110.5			249.2	\$20.96
-----									
Rotation - 69.									
7/7-7/19	12	10	384.5	421.0	36.5	.75	0.30	92.2	\$ 6.52
7/19-7/29	10	10	421.0	469.0	48.0	1.08	0.48	84.2	10.08
7/29-8/7	9	10	469.0	489.5	20.5	.47	0.22	84.4	2.36
Totals...	31				105.0			260.8	18.96

The fall pigs gave a total net return of \$39.88 per acre on Rotation 65, and \$47.40 on Rotation 69. Adding to these totals the net returns to date, made by the spring pigs, we get a total net return per acre, of \$60.84 on Rotation 65 and \$66.36 on Rotation 69.

The net returns per acre is calculated on the basis of corn at \$1.00 per hundred and pork at \$7.00 per hundred.



14 August, 1915.

## WESTERN IRRIGATION AGRICULTURE.

Field Notes.

## Scottsbluff.

During the week ending August 7, the variety plats of barley were cut. The second cutting of hay is all up and in very bad shape due to the fact that it had been exposed to almost two weeks of bad weather.

The men were employed at odd jobs about the farm, especially cutting and hoeing weeds. The grass plats in the grass garden were mowed. This was the second mowing for a number of plats, a full report of which will be given at a latter date.

On August 6, this section was visited by heavy rain and hail storm. Because of interrupted telephone communications we are unable to learn the exact extent of the storm, but it appears to have ranged about 5 miles east and west and 8 miles north and south. The damage varies considerable at the experiment farm, some of the crops were almost totally destroyed. From the grain varieties enough seed may be saved for next year's planting. Some of the oats are destroyed beyond recovery. Corn plats on the rotations and in the varieties, which lie at the north end of the farm, are very badly cut up. On the other hand those at the north end of the rotations and the corn on field G, just north of field K, are badly cut up, but are in fairly good condition. The alfalfa seems to have suffered alike all over the farm. The potatoes are very badly cut up especially those on field I. Westward from the experiment farm the storm left only a few short bare stalks of potatoes standing, washed field very badly, and even washed hay cocks entirely from the field. Then the storm skipped a mile or so for it seemed to be not so severe. The about 3 miles west of the experiment farm the storm seemed to center, destroying practically everything in the fields, and defoliating the trees. So far as the yields on the experiment work are concerned we believe the data this year will not mean anything. We shall do the best to save what we can but the loss is irreparable.

## DAIRY REPORT OF THE SCOTTSBLUFF SUB-STATION FOR THE MONTH OF JULY.

It will be noticed in this month's report that the amount of hay consumed is much greater than any month this year. This is due to the fact that during the winter months concentrates were fed with the hay. The pastures are very short, and although we turn the cows out into these pastures very little is gotten from them. The best pasture we have had from any one field was from the sweet clover pasture that we seeded this spring. The estimated pasture data cannot be given at this time, and feel that it would be best to leave this go to the close of the season.



WESTERN IRRIGATION AGRICULTURE  
Field Notes

## Soottsbluff (Continued).

The price of butter fat is 20 cents for the month August and was at an average of 20-1/2 cents for July.

It was suggested that we give the skim milk a value and add it to the income of the cow. This has been done this month, estimating that 85 per cent. of the whole milk is skimmed milk. In adding up however, we find that the difference between our skim milk and the whole milk is a trifle greater than this. We have given the value of 25 cents per hundred pounds of skimmed milk. In connection with this it would be of interest to turn to Henry's Feeds and Feeding, page 572, of the 1898 edition, to get the value of skimmed milk. The same table may be given in a later book under the heading of "Placing money values on separated skimmed milk". In the next weighing date of our calves we will give the results of the calves. This will give approximately the amount of money the calves have paid for skimmed milk.

The following table gives the results of the past month's work:

Pounds Milk	Butter fat					Pasture Value	Hay		Profit of Loss
	Av. Test	Total	Market Price	Value of	Cost of		Lbs	Value	
Wonder									
649.7	4.0	25.9	21.5¢	5.56	15.9	1.50	1050	2.62	+ 1.44
Rose									
590.55	3.8	22.44	21.5	4.82	18.3	1.50	1050	2.62	+ .70
Marie									
755.65	2.6	19.6	21.5	4.21	21.03	1.50	1050	2.62	+ .09
Mable									
982.75	2.7	26.53	21.5	5.70	15.5	1.50	1050	2.62	+ 1.58
Beauty									
582.15	3.8	22.12	21.5	4.75	18.6	1.50	1050	2.62	+ .63
Maud									
670.35	3.3	22.12	21.5	4.75	18.6	1.50	1050	2.62	+ .63
Stella									
788.75	3.6	28.39	21.5	6.10	14.5	1.50	1050	2.62	+ 1.98



14 August, 1915

WESTERN IRRIGATION AGRICULTURE  
Field Notes

Scottsbluff (Continued).

The following table shows the amount and value of skim milk of each cow during July, 1915.

Cow.	Skim milk.			
	Total Pounds	Value	Total Value	
Wonder	552	25¢	\$1.38	Jersey Grade
Rose	496	25¢	1.24	Shorthorn-Holstein
Marie	642	25¢	1.60	Holstein
Mable	833	25¢	2.08	"
Beauty	494	25¢	1.23	"
Maud	569	25¢	1.42	
Stella	670	25¢	1.67	Red Rolled Grade



14 August, 1915.

DEMONSTRATION ON RECLAMATION PROJECTS.  
FIELD NOTES.

Boise.

The week ending July 31, began with the vaccination on Sunday of a herd of about 160 hogs in which cholera had been found the evening before. This bunch seemed to be in bad condition, many temperatures being above 106° F., and very heavy doses of serum was used. On Tuesday no hogs had died and Mr. Larson was beginning to question whether his hogs really had cholera or not. In this herd were 30 shoats which had been placed in a field at a distant part of the farm from which they wandered at will over the adjoining farms. One of the was found dead, fourteen were not found at all and of the other fifteen, five showed high temperatures. There were good indications that cholera had existed in the herd for some time in a chronic form, which had caused but little loss. The appearance of cholera in Mr. Wilson's herd following the removal to his farm of a boar from Mr. Larsons place, seemed to show almost positively that the infection came from the latter farm.

On July 14 the Water Users' Association picnic was held at Mr. Larson's place and a ball game was held in the hog pasture. On July 30, Ralph Weeks, of Fargo, who had attended the game, found some of his hogs sick and an autopsy the following day showed plain cholera lesions. This herd of 39 head was vaccinated on July 31. A report on July 31 from Mr. Hill's herd of 425 head, vaccinated on July 20, 21 and 22, showed no losses since vaccination except as reported previously. On the same day Mr. Young, of Nampa, who had 306 head vaccinated on June 29 and 30 reported that he had lost about 60 out of the bunch of 85, only six of which showed normal temperatures at the time of treatment.

One pit silo was begun this week for Mr. F. B. Faris of Deer Flat. A concrete coping was put in from about a foot below the surface of the ground to the same distance above. The conditions on Mr. Faris's place should make a pit silo both economical and practical. There are at least two completed pit silos on the Project and two in the process of construction. Work is progressing nicely on Mr. Cooper's concrete silo which probably will be finished next week.

Reports were received this week from two of the men who planted peas for "hogging off" tests. On account of the presence of cholera in the neighborhood neither of these men cared to haul their hogs away to weigh them as planned and so the tests are practically worthless as far as definite data are concerned. Only one of the men was visited. He is quite well impressed with value of peas for this purpose as he thinks his hogs have done exceptionally well since turned into the field. A statement regarding the



14 August, 1915.

## DEMONSTRATION ON RECLAMATION PROJECTS.

Field Notes

## Boise (Continued).

acreage, number and relative sizes of hogs and time they were fed on the peas will be made later.

On Friday a man was visited who had shipped in about 200 head of young calves from Tillamook, Oregon. His report on the enterprise was not wholly favorable but this was largely due to one unfortunate freight shipment of 105 head. Of those about 20 were killed by rough handling enroute and others died as a result of the same thing. The calves were shipped when very young and whole milk was bought for them for some time in addition to calf meal. At present, these calves, now about 4 or 5 months old are still very small and many of them extremely thin. They cost the present owner at about \$20 each, which is more than twice their value. This price of course includes losses as well as cost of food, transportation, etc. Calves shipped by express came through in much better shape, and at only a little higher charge.

## North Platte.

During the week ending July 31, 33 last summer's pigs were weighed for Mr. E. C. McCoy, who will carry on a hog feeding demonstration. These 33 shoats, average weight 138.9 pounds, will be fattened on corn in a self feeder while running on a good alfalfa pasture.

On Thursday a bunch of 127 hogs were weighed up for Scrivens Brothers. This bunch consisted of 49 last summer's pigs and 78 last spring shoats. All will receive corn in a self feeder while grazing on alfalfa pasture. The larger hogs will be sold about September 1 and the demonstration continued with the shoats. Arrangements were also made with Mr. Noland for conducting some hog feeding work. One lot will be fattened and another lot will receive a good growing ration.

Friday a call from near Bayard was answered to investigate a possible case of cholera. Upon arrival at the farm the ailing hog was found quarantined. Practically no symptoms of cholera were present. The trouble was probably rheumatism. No other hogs in the herd were ailing. No outbreaks of cholera have occurred on the project for two months. So far only ten cholera outbreaks have occurred in the valley since January 1, 1915. This number occurred during the month of July alone in 1914.



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DEMONSTRATION ON RECLAMATION PROJECTS.  
Field Notes.

## North Platte (Continued).

On Saturday the Farmers' Cooperative Commercial Company, Morrill, shipped a carload of shoats to the State Serum Plant, at Lincoln. The farmers received \$7.95 per cwt., for the shoats. The Association charged the farmers 5¢ per cwt. for handling their shoats. This is the first car of hogs to be handled by this Association, which has only just recently been organized.

## Shoshone.

During the week ending July 24, twelve farms were visited, two men called at the office, and milk was tested for one man.

All of the alfalfa silage which was put up is being fed, and is giving good satisfaction. One man reported that his cows did not like it especially well at first. Most of the men began feeding as soon as the silo was filled. In one silo there were a few moldy spots which might have been due to lack of tramping.

Mr. Magruder reports for the month of July as follows:

The Cooperative Creamery is unable to supply its demand for butter. Not only could more butter than it is making be sold direct to customers, but many of the other creameries in this section are short of butter and have been trying to buy of the Cooperative Creamery. It manufactured a total of 8,000 pounds of butter during July and paid 23¢ per pound for butter fat. In addition to the cream delivered directly to the creamery by the farmers on the Project, the creamery started the first of the month to buy cream from the stores in Garland, which is on the edge of the project, so that many farmers who live outside of the project, deliver at these stores. There is a serious objection to buying the cream from these stores in that much of it is in bad condition when delivered at the creamery. The merchants also object to selling to the creamery because the creamery pays each two weeks while the Billings creamery pays when the cream is delivered.



14 August, 1915.

DEMONSTRATION ON RECLAMATION PROJECTS.  
Field Notes.

## Shoshone (Continued).

During this month five of the new silos were partly filled with alfalfa silage. The first cutting of alfalfa was used and it was quite mature when cut because there was delay in erecting the silos. Though the silage was slightly dry no water was added. In each silo there has been some molding, especially around the edges but so far the farmers are well pleased with alfalfa silage for summer feed for cows.

There has been a great deal of trouble in curing the first cutting of alfalfa, due to the frequent showers. Most of it was allowed to stand in the cock so long that the alfalfa was killed under the cocks and the second crop grew up around them.

Corn which was sown for silage has been growing nicely during the month.

Six stave silos were erected on the project this month.

Much interest is being taken in pasture grasses. Many farmers feel the need of pasture for the cows during the summer. On one farm seventeen acres of brome grass is pasturing twelve cattle, six calves, five horses and ninety hogs, averaging more than 125<sup>00</sup>/. Sweet clover is giving good satisfaction for pasture.

One man who has cattle on the forest reserve range reports losses from plant poisoning.

A few men are feeding beet sugar syrup to cattle and hogs this month and more men would feed it if the farmers could be organized to ship it in by the car load. One man who has been losing a few pigs quit feeding syrup to his pigs and they quit dying, so he concluded that the syrup was killing his pigs.

A good many farmers weigh the milk from individual cows either daily or occasionally, but though several have testers very few test. About the only testing done is done by the agriculturist, and that is done only in co-operative or demonstration work.

Comparatively few cows receive anything but alfalfa hay. A few farmers who live on land on which no one has filed, let the cows range on that land. Some farmers have sweet clover pasture and a very few have other tame pasture. A few farmers are feeding alfalfa meal, beet sugar syrup or grain.

I have heard of no abortion this month.

Practically all the hogs now on the project are pasturing alfalfa. Very few of these are getting as much grain as they need because grain is so high and is very scarce. Many of



14 August, 1915.

DEMONSTRATION ON RECLAMATION PROJECTS.  
Field Notes

## Shoshone (Continued).

them are not getting grain at all. Of these many of the fall shoats are doing fairly well but the spring pigs as a rule, are in very bad condition. One man sowed a mixture of Canada field peas and wheat for hog forage. Many men intend to begin feeding barley or wheat as soon as it begins to ripen.

The alfalfa mill began the season's operations the first of the month and during the month ground a total of 800 tons of hay, the hay being hauled direct from the field to the mill.

No stock of any kind was shipped from the project during the month.

Some testing of milk from individual cows was done. When samples were saved for testing, the milkings from which the samples were taken were weighed and the feed estimated so that calculation could be made as to what each cow pays per ton for the alfalfa which she eats.

Considerable time has been given this month to helping in putting up silage, to advising the farmers regarding its care and feeding and to observing its conditions.

Several cow pastures have been visited to observe their condition and the condition of the cows.

Several men were advised concerning the treatment of hogs for lice.

Several farms were visited to observe the conditions of hogs and hog pastures and to confer with the farmers concerning the care of the hogs.

Considerable time was given to helping with the construction of silos. One man was assisted with plans for the re-arrangement of his barn lots and buildings.

During August cooperative, demonstrative and investigative work will be carried on along the following lines: Cattle feeding, cow testing, pasture grasses, sweet clover bloat, sterility, abortion, improved males, care of calves, cow barns, hog feeding, hog pastures, shelter, Boy's pig club, silos, silage, and Exchange.



14 August, 1915.

DEMONSTRATION ON RECLAMATION PROJECTS.  
Field Notes.

## Shoshone (Continued).

A numerical statement of the principal activities during the month of July is given below.

Number of calls for assistance.....	No. record kept
Number of farm visits made.....	47
"    " office visits by farmers.....	9
"    " meetings held,.....	0
Total attendance at meetings,.....	0
Number of Demonstrations at meetings,.....	0
"    " lectures at meetings,.....	0
"    of cars of hogs shipped,.....	0
Average price of hogs per cwt.f.o.b.shipping point.....	0
Total receipts for hogs,.....	0
Pounds of butter marketed,.....	8000#
Average price per pound for butter fat,.....	23¢
Number of dairy stock brought to project,.....	0
"    " swine stock brought to project,.....	0
"    " circular letters distributed,.....	0
"    " newspaper articles published,.....	1
"    " herds tested,.....	5
"    " cows tested,.....,about	25
"    " demonstrations started.....	1
With dairy stock,.....	0
With hogs,.....	1

During the week ending August 7, 14 farms were visited, four calls for assistance were received, five men called at the office, an article was written for local paper, 9 cows were tested for one man, ten letters were written.

The manager of the creamery still reports that he is unable to supply the demand for butter. The price of butter fat has risen to 25¢ per pound.

One man was assisted in partly filling his silo with almost mature barley in which there was much volunteer alfalfa. The cows ate the silage very well, but there was some waste from spoiling to date. This is likely due to the warm weather and to the silage being so loose near the top.



14 August, 1915

## DEMONSTRATION ON RECLAMATION PROJECTS.

Field Notes

## Shoshone (Continued).

One man was having some trouble with moldy alfalfa silage due probably, to his having too few cows to feed it fast enough during this warm weather.

Two other men were having trouble with mould near the walls, but one of them says he has about stopped this by tramping around the walls each time the silage is thrown from the silo.

One man was informed concerning the kerosene emulsion treatment for plant lice which were affecting his trees.

Cooperation was started with one man in feeding new barley in the sheaf to his hogs.

Arrangements are being made by a hardware merchant to construct forms to rent to farmers, for making concrete water tanks.

Many farmers are starting on the second cutting of their alfalfa and so far, the weather has been quite favorable for curing it. The second cutting is generally better than the first cutting.

Very little grain is being fed now, and the pigs generally are in poor condition. Many farmers are planning to feed green grain as soon as it is about mature. Some of them have already begun.

## Minidoka.

During the week ending July 31, Mr. Rinehart reported as follows:

Some trouble is being reported from bloat on white clover in the pasture mixture. Instances have been reported and investigated where both cattle and sheep have bloated on such a pasture. Among the farmers there is a difference of opinion. Some maintain that if the grass is sown uniformly so that there are no patches of white clover alone, bloat will not occur. Others think that the cattle and sheep will browse over a field, picking out the clover and bloat even though the other grasses are luxuriant. These pastures are not the mixtures being sown this year, which is a mixture recommended by the Gooding Experiment Station, but for the most part is a mixture of blue grass, brome grass and white clover.



14 August, 1915.

## DEMONSTRATION ON RECLAMATION PROJECTS.

Field Notes

## Minidoka (Continued).

The pigs of the members of the various pig clubs are among the best on the project. The results are being watched with much interest not only by the parents of the boys but also by many of the neighbors.

The best club on the project is in the Pioneer School District. This is a centralized school five miles west of Rupert. In this club the boys are older and farther advanced in school than are those boys in the other clubs. While the ages are such (12 to 19 years) that boys of High School age can compete in the contests, it is not favored by the State Club Supervisor, who is of the opinion that boys of this age are too much interested in other things to take an interest in raising pigs. In this section this opinion is not holding true. The Pioneer Club is the only one that is holding it's full membership while in the other clubs a high percentage - in one instance 60% - have become discouraged and quit. In the Pioneer District to older members work to encourage the younger members as the competition to some extent is between the different clubs.

Butter fat is now 22¢. Hogs are \$5.90. One load of stock hogs was shipped out to a dry farm section this week. In this shipment there were 100 head weighing from 45 to 90 pounds. They were bought at six cents a pound.

During the week ending August 7 a call was received from Mr. Homer Randall of Burley, who stated that he was losing a number of his spring pigs. Because of necessary work on the North Side an investigation could not be made until Monday evening, the call having been made late Sunday evening. Cholera was found to be present in a chronic form. It had worked so slowly that Mr. Randall, who had the pigs on pasture and was very busy had not believed it to be cholera although 25 pigs had died.

Mr. Randall's herd was vaccinated Tuesday. Three other investigations were made of which one was found to be cholera. This was on the farm of Ben Gerrard. Here the infection was not very bad. Two pigs had died, one was killed and the remaining 63 vaccinated. Only two high temperatures were found.



14 August, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

## Minidoka (Continued).

The vaccination was done on Wednesday. Three other investigations that day showed cholera to be present in the herds of Julius Neilson and Chas. Manning. These herds were both vaccinated on Thursday.

The outbreak illustrates the need of immediate action, when a herd becomes infected. The infection was bad in the herds of Randall and Neilson. It is believed that it appeared in the Randall herd first from which place it went to Neilson's and then to Gerrard's. Mr. Manning's herd is in the Emerson District where the disease appeared the last of June.

Dr. Thomas of the Office of Markets and Rural Organizations has spent the last ten days on the project. He was accompanied on a number of visits to farmers and business men. The outlook for money for livestock is very encouraging - better than it has ever been on the project. All bankers are in favor of giving assistance in the work to those farmers that are reliable. All are agreed that there will be a great weeding out process here. Without exception the banks refuse to do anything with cooperative movements. The most feasible plan seems to be to have the farmers arrange for their own finances individually and then buy cooperatively in order to save expenses in buying and shipping. At the present time there is but little demand for dairy cattle. This is usually true in the summer when the farmers are so busy. In the fall and winter it is hoped that work can be done along this line,

## Huntley.

During the week ending July 31, a conference of county agents and other extension workers was attended at Bozeman. One day was spent in Billings where a conference was had with Mr. Merrill of the Billings Creamery regarding some cream shipments over which there has been some difficulty. Dr. Smith was also seen in regard to the hog cholera situation on the project. There are no new cases of cholera reported to date.

Ten milk samples and one cream sample were tested during the week.



14 August, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

Huntley (Continued)

Mr. Christopher reports for the month of July as follows:

Swine

Several cases of swine sickness were reported, two cases of which proved to be hog cholera. In one case the disease is in a very mild form and three post mortems were required before characteristic cholera lesions were found. In the other case, the disease was more virulent and the first post-mortem showed very characteristic cholera lesions. Both of these herds and a herd that had been exposed were vaccinated. The hogs that were visibly sick when vaccinated died a few days after vaccination. All the others are apparently well. Other cases of swine sickness reported were due to various causes, such as bowel trouble due to change of feed, and rheumatism due to the unusual amount of wet and cold weather, which has prevailed during the entire spring to date.

During the month, several herds were found to be somewhat infested with lice, and nine owners were either assisted in treating them or advised how they might do the work themselves.

Owing to the high prices of grain, very few hogs are being properly fed, that is, they are not receiving sufficient grain in addition to alfalfa pasture. As soon as the small grains are harvested, this condition will be somewhat remedied. Corn retails, in Billings, \$1.70 per cwt.

Two pig feeding demonstrations were started during the month, one of which may have to be discontinued on account of wildness of the pigs and a lack of proper facilities for handling them.

One July 20, a pig feeding demonstration was started with Mr. Plato Pickens. During the first ten day period, 56 pigs which have been grazing on alfalfa pasture and hogging off 1/2 acre of rye gained 275 pounds. These pigs now have access to the balance of a five acre field of rye and when this is finished, they will be moved to a measured patch of spring wheat, from this they will go to peas and from the peas they will be finished off on corn, gathering all the crops themselves.



## DEMONSTRATIONS ON RECLAMATION PROJECTS.

Field Notes.

## Huntley (Continued).

There have been no hogs marketed from the project, during the month, in car load lots. A few have been hauled to Billings. The price received was \$6.50 per cwt.

Dairying.

Records are now being kept on herds comprising 98 cows in all, the smallest herd containing 2 cows, and the largest 14. The milk from each cow is weighed daily and a two day composite sample is taken from each cow, each month and tested for butter fat. The feed record is also kept, but in most instances, the amount of feed eaten is estimated. There has been no importation of dairy stock during the month. Dairy produce consisting of cream, whole milk, cheese and butter, amounting to a total value of \$1721.50, were sold from the Project during the month of June.

During the month an outbreak of blackleg occurred, but was controlled by means of vaccination.



21 August, 1915.

## WESTERN IRRIGATION AGRICULTURE

## FIELD NOTES

San Antonio.

During the week ending August 7, the maximum temperature was 101, and the minimum 67.

The week was devoted largely to harvesting of corn on the rotation experiments and on C-3. The corn stalks on the rotation plats were cut with a stalk cutter and the ground made ready for plowing.

The following yields were obtained from the rotation experiments. The average yield last season was 52.6 bushels and the eight-year average 1907 to 1914, was 24.4 bushels. Again this season the lowest yield was obtained from A-4-3, which was summer fallowed in 1914.

Corn Yield from the Rotation Experiments

Plat.	Plants per acre	Yield.	
		Pounds per plat	Bushels per acre
A 4-3.....	4776	268	14.9
A 4-8.....	3770	292	20.3
A 6-7.....	4476	720	40.0
A 6-9.....	4520	544	30.2
A 6-11.....	4728	641	35.6
A 6-13.....	4996	529	29.4
A 6-15.....	3796	531	29.5
A 6-17.....	3528	448	24.9
B 5-1.....	4700	476	26.4
B 5-3.....	4476	540	30.0
B 5-13.....	4436	376	20.9
B 5-15.....	3692	360	20.0
B 6-1.....	4944	488	27.1
B 6-3.....	4808	524	29.1
B 6-5.....	4536	696	38.7
B 6-7.....	4480	697	38.8
B 6-9.....	4688	763	42.4
B 6-11.....	5016	588	32.7
B 6-13.....	4284	530	29.4
B 6-15.....	4052	492	27.3
B 6-17.....	4228	570	31.7
Average.....	4427	527	29.5



21 August, 1915.

WESTERN IRRIGATION AGRICULTURE  
Field Notes.

## San Antonio (Continued).

The following yields were obtained from the corn and cowpea experiment. It will be observed that the yields from the plats where the cowpeas were planted on May 17, or about two months after the corn was planted, are in excess of the yields from the plats where cowpeas were not planted. The cowpeas planted this late made but comparatively little growth, even where the corn rows were seven feet apart, and where the rows were five feet apart, the majority of the peas died out. It is fairly safe to state that the peas had little effect on the yield from these plantings.

The increased yield in these plats over the adjoining plats where no cowpeas were planted is attributed to the fact that these plats were on the low side of the field and the conditions were somewhat more favorable.

In the two plats where the cowpeas were planted March 26, the yields were appreciably lower than in the plats where there were no cowpeas.

The experience this season as well as that of last year indicates that the planting of cowpeas between the corn rows is not particularly desirable, even during favorable seasons and is a decidedly poor practice during seasons of low rainfall.

Corn Yields from the Corn and Cowpeas  
Experiments, 1915.

Distance apart of rows	Average distance apart of plants	Average number plants per acre	Yield	
			per row	per acre
<u>Cowpeas planted May 17</u>				
Feet	Inches		Pounds	Bushels.
5	24	4356	34.5	31.6
6	23	3795	48.0	36.7
7	20	3728	59.9	39.3
<u>Cowpeas planted March 26</u>				
6	21	4070	45.3	34.6
7	21	3587	34.4	22.4
<u>Without Cowpeas</u>				
4	29	4320	22.2	24.7
5	23	4620	31.4	28.8
6	22	3960	40.2	30.7
7	18	4106	53.4	35.0
6	22	3900	47.4	36.2
7	22	3351	41.5	27.2



21 August, 1915.

WESTERN IRRIGATION AGRICULTURE  
Field Notes

San Antonio (Continued).

In the experiment where the corn rows were different distances apart it was intended to have about the same number of plants per acre, but owing to unfavorable weather conditions at the time of planting, a rather unsatisfactory stand was obtained. It is of interest to observe that as the distance between the rows increased, the yield per acre also increased. It is reasonable to suppose that had there been approximately the same number of plants per acre in each of the plots, that the differences in yield would have been even greater.

Corn Yield Where Rows Were Spaced  
Different Distances Apart

Distance apart of rows. Feet	Average distances apart of plants Inches	Average number plants per acre	Yield	
			per row Pounds	per acre Bushels
4	29	4320	22.2	24.7
5	23	4620	31.4	28.8
6	22	3960	40.2	30.7
7	18	4106	53.4	35.0

Truckee-Carson.

During the week ending August 7, the maximum temperature was 96, minimum, 47 and precipitation, .0.

The barley varieties on the farm of H. C. Smith was stacked.

The wheat varieties on the farm of A. R. Merritt were cut and shocked.

The following fields were irrigated : C 1-2-3, D 1 to 8, inclusive; E 1 to 8 inclusive; H 1-2-3-3-1/2-17-23-24-25-26-27-28-29; G 1 to 5 inclusive; F 1 to 6 inclusive; Y 1 to 19 inclusive; and portions of the gardens.

Mr. A. McPherson, Field Instructor in the Department of Agriculture, New Zealand was a visitor at the Experiment Farm, Saturday.



21 August, 1915.

WESTERN IRRIGATION AGRICULTURE  
Field Notes

Truckee-Carson, (Continued).

Arrangements have been made for a canning demonstration to be conducted by Miss Davis of the Extension Department, University of Nevada, on the Experiment Farm during the first week in September. The tomatoes from the variety tests will be used.

The pigs on the pasture experiment made exceptionally good gains during the eleventh period, July 24 to 31, the average daily gain being .96%. During the twelfth period July 31 to August 7 there was a remarkable decrease in gain, due to no apparent cause. The average daily gain this period was .53%.

A tabulation giving the details of the experiment during the eleventh and twelfth periods, and a summary of all periods follows:

Eleventh Period July 24-31 (7 days)

	Durocs	Berkshires	Total
Number of hogs,.....	5	5	10
Initial weight, pounds,.....	349.5	264.0	613.5
Final weight, pounds,.....	374.0	282.0	656.0
Total gain, pounds,.....	24.5	18.0	42.5
Daily gain, pounds,.....	3.5	2.57	6.07
Daily gain per acre, pounds,.....	28.0	20.6	24.3
Daily gain, per cent.,.....	.97	.95	.96
Barley fed, pounds,.....	48.9	37.0	85.9
Cost of barley at 1-1/2 cents,.....	.73	.56	1.29
Value of gain at 7 cents,.....	1.72	1.26	2.98
Net return,.....	.99	.70	1.69
Daily net return per acre,.....	1.13	.80	.97



21 August, 1915.

WESTERN IRRIGATION AGRICULTURE  
Field Notes

Truckee-Carson, (Continued).

Twelfth Period July 31 to Aug. 7 (7 days).

	Durocs	Berkshires	Total
Number of hogs,.....	5	5	10
Initial weight, pounds,.....	374.0	282.0	656.0
Final weight, pounds,.....	384.5	296.0	680.5
Total gain, pounds,.....	10.5	14.0	24.5
Daily gain, pounds,.....	1.50	2.00	3.50
Daily gain per acre, pounds,.....	12.0	16.0	14.0
Daily gain, per cent.,.....	.40	.69	.53
Barley fed, pounds,.....	52.4	39.5	91.9
Cost of barley at 1-1/2 cents,.....	.79	.59	1.38
Value of gain at 7 cents,.....	.74	.98	1.72
Net return,.....	-.05	.39	.34
Daily net return per acre,.....	-.06	.45	.19

All periods -May 16 to Aug. 7 (83 days).

Number of hogs,.....	224.0	166.0	390.0
Final weight, pounds,.....	384.5	296.0	680.5
Total gain, pounds,.....	160.5	130.0	290.5
Daily gain, pounds,.....	1.93	1.57	3.50
Daily gain per acre, pounds,.....	15.4	12.6	14.0
Daily gain, per cent.,.....	.65	.70	.67
Barley fed, pounds,.....	484.9	362.3	847.2
Cost of barley at 1-1/2 cents,.....	7.27	5.44	12.71
Value of gain at 7 cents,.....	11.24	9.10	20.34
Net return,.....	3.97	3.66	7.63
Net return per acre,.....	.38	.35	.37

Huntley.

During the week ending August 7, the maximum temperature was 89 and the minimum 52.

The second crop of alfalfa was harvested during the week. The harvest of this crop was delayed about 10 days because of stormy weather.

Barley in field L-2 was harvested.



21 August, 1915.

WESTERN IRRIGATION AGRICULTURE  
Field Notes

## Huntley (Continued).

The drain constructed through the Worden tract has been effective in lowering the water below the bottoms of the test wells, excepting in wells Nos. A1 and A2. The wells are about 7 feet deep. On August 2 the water in well A1 was 1.98 feet below the surface and in well A2, 2.98 feet below the surface of the ground. The tile drain through the north side of the field is about 9 feet below the surface and 20 inch tile is being used.

Work was started on the construction of the root cellar and seed house.

Field K

The second crop of alfalfa was harvested in field K. The following yields were secured:

Rotation number	Plat number	Year	Yield	
			Plat - Lbs.	Acre--Tons
Con. Crop	K-IV-22	Con. crop	748	1.49
60	III-12	3	1012	2.02
61	III- 6	3	1126	2.25
44	IV-13	2	968	1.93
42	IV- 9	2	1200	2.40
40	IV- 3	2	1154	2.30
60	III-11	2	1154	2.30
61	III- 5	2	1236	2.47
67	II- 5	2	1118	2.23
67	II-4	1	576	1.15
61	III-4	1	544	1.08
60	III-10	1	548	1.09
40	IV- 2	1	400	.80
42	IV- 8	1	514	1.02
44	IV-12	1	298	.59

All potato plats were ditched.

Results of hog feeding experiments are shown in the following tables:



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WESTERN IRRIGATION AGRICULTURE  
Field Notes.

## Huntley (Continued).

Spring Pigs on Alfalfa Pasture and 2% Corn Ration.

Number Days	Number Pigs	Initial Weight	Gain	Av.daily gain	% daily gain	Daily returns per acre.
12	8	302	67	5.58		3.3
8	8	369	32	4.0		.21

Fall Hogs on Feed Lot. 3.5% Corn Ration.

Number Days	Number hogs	Initial weight	Gain	Av.daily gain	% daily gain	Amount grain fed
12	5	1186	112	9.3		41.59
8	5	1298	91	11.3		45.57

Total gain for twenty day period - 203 Lbs.

203 Lbs. pork at 7 cents,.....	\$ 14.21
863 " corn " \$1.00 per cwt.,	\$ 8.63
	\$ 5.58.

## Scottsbluff.

Most of the time during the week ending August 14 was put in cutting weeds, and several of the wheat plats were cut with the mower. Unless the weather gets very bad we hope to get enough grain out of some of our plats for seed for next year. Part of the time the men were employed shingling and doing other work on the new corn crib and granary, which are almost completed.

The potatoes were cultivated and a portion of the beets have been gone over with the cultivator. These two crops are recovering very nicely from the effects of the hail, and we hope to get some results from these crops, at least.

The alfalfa was more seriously injured from the hail storm than it was first anticipated. This is especially true of the alfalfa on the southwest corner of the farm where the storm struck most severely. On the east side of the farm, especially field K and the south end of field D the alfalfa is beginning to make fair growth, but on field H it is still brown and desolate looking, where the hail did considerable damage to the crowns of the alfalfa.



WESTERN IRRIGATION AGRICULTURE  
Field Notes

## Scottsbluff (Continued).

On July 17 the grasses in the grass garden was cut for the first time. We took all the weights but as considerable of the chaff and straw mulch were picked up with these grasses, the weights taken at that time were discarded as very unreliable. The second cutting of these plats were made on August 4. The result of this cutting is given in the following table:

Name	Plat No.	Date cut	Green Weight Lbs.-Ozs.	Dry Weight Ozs.
Wheat Grass.....	1	Aug. 4	1.07	6.0
Bromus Inermis .....	2	" 4	1.14	4.5
Orchard.....	3	" 4	2.01	5.5
Timothy.....	4	" 4	0.09	1.5
Golden Oat.....	5	" 4	0.12	2.0
Italian Rye,.....	6	" 4	7.01	18.0
Perennial Rye.....	7	" 4	3.15	11.0
Tall Oat,.....	8	" 4	2.14	11.0
Meadow Fescue,.....	9	" 4	2.08	6.5
Sheep Fescue,.....	10	" 4	---	---
Tall Fescue,.....	11	" 4	2.07	4.5
Red Top.....	12	" 4	0.14	2.5
Blue Grass,.....	13	" 4	.04	0.5
Italian Rye,.....	14	" 4	8.10	24.0
Perennial Rye.....	15	" 4	4.14	18.0
Tall Oat,.....	16	" 4	2.07	8.0
Meadow Fescue,.....	17	" 4	2.04	7.0
Sheep Fescue.....	18	" 4	---	---
Tall Fescue,.....	19	" 4	4.03	10.5
Red Top,.....	20	" 4	1.12	6.5
Blue Grass,.....	21	" 4	.08	---
Red Clover.....	22	" 4	4.14	9.5
White Clover,.....	23	" 4	1.15	2.0
Alfalfa.....	24	" 4	5.00	11.5
Sweet Clover,.....	25	" 4	3.12	7.5
Alsike Clover.....	26	" 4	3.13	8.5



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WESTERN IRRIGATION AGRICULTURE  
Field Notes

## Scottsbluff (Continued)

Name	Plat No.	Date cut	Green Weight Lbs.-Ozs.	Dry Weight Ozs.
Tall Fescue, Wheat grass,				
Perennial Rye.....	27	Aug. 4	3.0	8.0
Bromus Inermin and Red Top.	28	" 4	1.10	4.0
Blue grass, Italian Rye,				
Orchard,.....	29	" 4	8.11	21.5
Red Clover,.....	30	" 4	4.11	9.0
White Clover,.....	31	" 4	3.08	7.0
Alfalfa,.....	32	" 4	6.05	13.5
Sweet Clover,.....	33	" 4	2.10	5.5
Alsike,.....	34	" 4	5.02	11.0
Wheat Grass,.....	35	" 4	2.04	8.5
Bromus Inermin,.....	36	" 4	2.07	8.0
Orchard Grass,.....	37	" 4	2.05	5.5
Timothy,.....	38	" 4	0.14	2.0
Golden Oat,.....	39	" 4	1.04	3.5
Sheep Fescue, Red Top.....	40	" 4	1.05	3.0
Golden Oat, White Clover,...	41	" 4	3.14	7.5
Sweet clover and Sheep				
Fescue,.....	42	" 4	2.12	4.0
Meadow Fescue, Orchard,....	43	" 4	3.05	7.5
Tall Fescue, White Clover..	44	" 4	3.13	5.5
Perennial Rye, Tall Oat....	45	" 4	2.03	5.5
Blue Grass, White Clover,				
Alsike Clover,.....	46	" 4	2.11	4.5
Orchard and Tall Oat,.....	47	" 4	2.14	5.0

REMARKS: The dry weights of the grasses are all given in ounces.

In a previous report it was stated that the close cutting of the young sweet clover killed a number of the plants. Upon close examination it was found that some of these plants recovered, but slowly. After the second cutting a count was made over an area of 1 foot square with the following result:



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WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

Scottsbluff (Continued).

Sweet Clover

Number Plants	Plants Dead	Plants Partially Dead	Plants Alive
52	14	8	30
38	29	4	5
31	12	8	11

From the 7 cows in the dairy herd, 6 calves have been raised up to the present time, August 14. Although all cows calved, one calf died at the time of birth, leaving 6 calves. No experiments have been outlined for raising these calves, and it would be very difficult to outline any kind of work with calves coming scattered along, as is always the case with a few cows.

We have tried to keep tract of the feed consumed, and have apportioned it as nearly as we could. Definite weights were kept of the milk; this we were able to do very easily, but where the cows run to the same hay rack it was a different proposition, and the hay consumed was charged to the lot of calves.

The following table has been made up from the record as kept since the calves were born.

The calf "Ted", a black steer, is out off the Shorthorn Holstein scrub cow, sired by a shorthorn bull. "Jess" is a red steer out off the Jersey scrub cow, sired by a shorthorn bull. "Eva", "Bess" and "Blossom", all three are heifer calves from a pure bred Holstein bull and out off the cows on the farm. "Flossie", also, is a heifer calf off a red polled grade cow, sired by our Ayrshire bull.



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WESTERN IRRIGATION AGRICULTURE  
Field Notes

Scottsbluff (Continued).

Name of calf	Date of birth	Age days	Weight at birth	Present weight	Total gain	Average gain per day
Ted	June 12	214	80	488	480	2.24
Jess	Feb. 15	180	66	372	306	1.7
Eva	Mar. 10	157	75	308	233	1.48
Bess	" 18	149	68	300	232	1.56
Blossom	" 20	147	68	310	242	1.64
Flossie	June 7	68	78	174	96	1.41

Feed Consumed

Cow	Milk Pounds	Milk Value	Hay		Ground corn and barley		Total cost of feed	Value. Present market 8 cents
			Pounds	Value	Pounds	Value		
Ted	4595	14.96	1081	\$ 2.70	92	\$1.38	\$19.04	\$ 38.82
Jess	3926	11.93	976	2.44	87	1.30	15.67	29.76
Eva	2928	8.14	948	2.37	70	1.05	11.56	24.62
Bess	2962	8.86	948	2.37	70	1.05	12.28	24.00
Blossom	2939	8.11	948	2.37	70	1.05	11.53	24.80
Flossie	1352	4.59	128	.32			4.91	13.92

Umatilla.

During the week ending August 7 the maximum temperature was 98, the minimum 52 and precipitation .02.

Mr. S. T. Harding of the Irrigation Department of the University of California visited the farm twice during the week, being most interested in the lysimeter, soil moisture and irrigation experiments.

Mr. Allen left Tuesday for the Hood River station to remain during the first half of the month.

The first crop of alfalfa was cut on the forage crop rotation plats. (1/4 acre each).



21 August, 1915.

WESTERN IRRIGATION AGRO CULTURE  
Field Notes

Umatilla (Continued)

The results are given in the table below:

Plat	No manure Pounds	8 tons manure per acre Pounds	32 tons manure per acre Pounds
Series A.			
1	25.5		
2		30.0	
3			43.5
4	17.0		
5		40.5	
6			52.0
Series B.			
1	9.5*		
2		38.5	
3			51.0
4	31.0		
5		46.5	
6			65.5
Series C.			
1	25.0		
2		44.5	
3			64.5
4	11.0		
5		31.5	
6			68.0
Average	19.5	38.6	57.4

\* Struck by whirlwind after cutting.  
Most recovered.

The third crop of alfalfa was cut during the week.



21 August, 1915.

## DEMONSTRATIONS ON RECLAMATION PROJECTS.

## FIELD NOTES.

Boise.

Mr. Ireland reports as follows on the work during the week ending August 7.

"The only feature of this week's work which is of special interest is the work in connection with hog cholera. No new outbreaks had occurred up to Friday. I had promised, provisionally, to go to New Plymouth in the Payette Valley to assist in the selection of some cattle from a dairy herd which is being dispersed on Friday morning, and waited until Mr. Larson, who had made the request, was ready to start on the trip, for any reports of cholera. None coming, I promised to meet Mr. Larson en route but as soon as he had gone and I couldn't reach him a call came in. Mr. McCall answered it and found two cases of cholera just across the road from Mr. Larson's place where the disease was discovered on July 24, from which the infection had probably been carried by birds, poultry or pigs. Both herds, one of them a herd of pure-bred Poland Chinas, were vaccinated by Mr. McCall on Friday.

Twelve head of pigs were vaccinated early in the week for Mr. Larson. These were the pigs which had been running at large. Two could not be found. Of these twelve none showed a normal temperature, the lowest showing 104.2°, and the average running between 106° and 107°. The day was hot, which doubtlessly affected the temperatures to some extent. On this same day the farm where vaccination had been done on the Saturday preceding was visited. One hog had died.

A call to inspect hogs on a farm near Boise came in Saturday evening, but I did not return from Plymouth in time to answer it that night.

The herd of cattle which is being dispersed at New Plymouth illustrates what can be accomplished under certain management. The herd is owned and managed by a company of men, none of whom have had the rudiments of an agricultural training. On 280 acres of land adapted to pasture and hay, the cows are in poor condition and producing accordingly for want of feed. Last winter the manager of this herd paid \$5.00 per ton for corn sil-



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DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

Boise (continued).

age and hauled it several miles, then questioned the value of silage as a feed for dairy cows.

In this herd are Jerseys, Guernseys, Holsteins, Red Polls and Shorthorns. Two bulls head the herd, one a grade Holstein and the other a purebred Red Poll. They run with the cows. Both Mr. Larson and Mr. McCowan with whom I visited the farm selected some cows, but were unable to make purchases because of extravagant prices asked by the owners.

Numerical Summary

Days employed.....	6
Miles traveled: .....	142
By rail.....	16
auto.....	36
horse.....	90
Farms visited.....	10
Calls at office.....	4
Requests for service.....	10
Letters received.....	13
Letters sent out.....	14

Field Work

Herds of hogs inepted for cholera....	4
Herds found infected.....	0
*Herds treated for cholera.....	1
No. hogs treated for cholera.....	12
Men assisted in selecting cattle.....	2
* Part of herd treated preceding week.	

Mr. Ireland reports as following on the work during the week ending August 14:

"The work of the week has been almost entirely along the line of hog cholera control, with only a few things of minor importance undertaken.

One man was assisted with farm plans regarding the laying out of fields, location of pastures and buildings, and plans for hog houses. One was advised regarding feeding of dairy cows. One herd of hogs was treated for worms with American Worm Seed Oil on the strength of recommendations made at the Salt Lake Conference. Results were unsatisfactory as the hogs refused to eat the mash



## DEMONSTRATIONS ON RECLAMATION PROJECTS.

Field Notes.

Boise (continued).

containing the oil, though they had been kept off of feed for 24 hours. The herd was in bad condition, a complication of several things being present and the appetites were not good. One pig was drenched with the oil in milk and immediately vomited two very large round-worms. Cholera was present in the herd.

In several herds treated recently considerable difficulty has been encountered in determining the true condition of hogs because of hot weather. Extremely high temperatures have prevailed in herds where cholera has been found, and it has been impossible to determine to what extent this has been due to weather conditions. In one herd treated between 8:30 p. m. and 10:30 p. m., among 38 head of shoats, 104.4° F. was the lowest temperature found and only two were below 105°. Seven ran 105 to 106, twelve 106 to 107, fourteen 107 to 108, and three were 108, 108.3 and 108.6. These were the highest temperatures I had ever found up to that time. I have since found one of 109.1°.

The last three pigs were not treated and yet five days later were apparently doing well; in fact, they had never been visibly sick. Post mortem examination of a pig killed for the purpose showed almost every cholera lesion in pronounced form, and one or two had died previously. (The owner of the herd doubts if cholera was present).

Unusually warm weather has prevailed in this part of the State for several weeks. This has been favorable to most crops as far the Boise Project is concerned as the water supply has been ample. Grain harvest is nearly completed and some threshing has been done. Some high yields are being reported and yields generally are satisfactory. A report has just been received of one 20-acre field of wheat which averaged 59 bus. per acre. Weather conditions have been especially favorable for the development of corn, and the crop has pretty well outgrown the setback it received by the cold, wet weather during May. Soft wheat is selling at the elevators in Caldwell for \$1.35 per cwt, sacked, while hard wheat sells at \$1.40; barley sells at \$1.00 per cwt, and oats at \$1.15. Butterfat is quoted at 24¢ by the Commercial Creamery Companies, which is the same as the Caldwell Cooperative paid during July when other companies were paying only 22¢. Hogs are quoted at about \$6.00@6.25 top at the close of the week. The Coopera-



## DEMONSTRATIONS ON RECLAMATION PROJECTS.

Field Notes.

Boise (continued).

tive Creamery Co. has just shipped two loads to Portland. These will not reach the market until Monday of next week, however.

On account of numerous inquiries which are coming in in regard to various grades of cattle available for purchase, especially to the Cooperative Creamery Co., the trip to the coast points which had been planned for some time, for the purpose of investigating sources of supply of both dairy and beef stock, will be made next week. A week or ten days will be spent on this trip.

Numerical Summary.

Miles traveled.....	207
By rail.....	97
auto.....	55
horse.....	55
Farm visits.....	12
Calls at office.....	5
Requests for service.....	7
Letters received.....	7
Letters sent out.....	12
Circulars issued.....	1
Newspaper articles (same as circular).	1

Field Work

Demonstrations.....	5
Autopsies on hogs... 4	
Burning hogs..... 1	
Herds of hogs inspected.....	5
Herds found infected with cholera,....	4
Herds vaccinated.....	3
Number of hogs vaccinated.....	107
Herds treated for worms.....	1
Farmer s assisted in planning hog houses.....	1

Truckee-Carson.

Under date of August 13 Mr. Cline reports as follows:

"Weather conditions were very favorable for farming operations during the month of July. Alfalfa hay was harvested throughout the month in different parts of the Valley. The second crop



21 August, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

## Truckee-Carson (continued).

made a good average growth and the grasshoppers did not seem to decrease the yield as much as had been expected. In many places where the grasshoppers were the thickest, large hopper-catchers were dragged over the ground and the number of grasshoppers was greatly reduced. Some parts of the Project have never been infested to any great extent so far this year. The fields of corn which are more extensive than usual this year are looking fine. The barley and wheat crops promise good yields. The local prices offered at present are \$30.00 per ton for wheat and \$25.00 per ton for barley. It is not likely that there will be much grain shipped away from the Project this year, as many ranchers are contemplating storing grain for hog feeding.

The climatic conditions for the month of July were about normal for this locality. The average day temperature was 90.03° with a maximum of 99°. The average night temperature was 53.74° with a minimum of 44°. The total precipitation for the month was .18 inch. There were 25 clear days and 6 partly cloudy days. The total evaporation was 10.841 inches. The average wind velocity was 3.9 miles per hour.

During this month five carloads of dairy cattle were received into this Project from Preston, Idaho. These were almost all Holstein grades. Two registered Holstein bulls were brought in and 109 cows. Fifty-eight of the above cows were placed in the Fernley district and fifty-one in the Fallon vicinity. The average price per head for these cattle was the same as previous importations from Cache Valley, Utah, viz., \$90.00 per head plus transportation charges to this place plus eight percent commission on the cost laid down here. This last importation was made by the local Creamery Co. There is still a demand for more dairy cattle here, and it is expected that several ranchers will import foundation herds in the near future.

During July, I was away from the Project eight and one-half days. Two days of this time I spent in Reno, Nevada, consulting with the Veterinary Department about methods of treatment for sterility and other matters pertaining to my work here. The remainder of my time away from the Project was spent in the central part of California for the purpose of locating flocks of breeding ewes for sale and gathering data concerning the manufac-



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DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

## Truckee-Carson (continued).

ture and sale of alfalfa meal and the practice of grinding or chopping alfalfa hay for feeding on private ranches. To this end, visits were made to the following localities:-Sacramento, Modesto, Firebaugh, San Francisco, Dixon, Davis, Woodland, and Yolo. Some good flocks of breeding ewes were located and local ranchers put in touch with the owners. It is expected from the present sentiment toward sheep raising on the Project that several foundation flocks will be established before breeding time. One large ranch of several thousand acres was visited near Firebaugh, California, where a practice of feeding chopped alfalfa hay was extensively carried out. The manager of this ranch reported very favorable results for this practice. At the time of my visit to this ranch the alfalfa hay was being brought in from the harvest field, run through the cutting machine, and elevated into an immense stack from which it was to be fed later to cattle and sheep. The manager reported that this practice resulted in practically no waste of hay, a greater consumption of hay on the part of the stock, and correspondingly larger daily gains than when unchopped hay was used. This same experience was reported from other places visited. This particular part of the visit to California was prompted by a desire to secure first hand information for the benefit of a large number of ranchers on the Project who have been contemplating installing an alfalfa hay grinder for the purpose of grinding alfalfa meal for shipment, as well as grinding alfalfa meal for local consumption for dairy cattle and hog feeding. While on this trip I had a chance to observe the market conditions and amount of surplus hay in California which determines to a great extent our local prices and demand for hay for shipment. There is not as great a surplus in California this year as last year. This is due partially to almost the entire loss of first crop on account of the wet weather. Other adverse circumstances have cut the crop short in different localities. In some localities where hay was cheap at the beginning of the season many ranchers planned to buy hay and pasture their alfalfa land. This will add to the shortage of alfalfa in these localities. The San Francisco price July 30 was \$7.50 to \$10.00 per ton, as compared with July 30, 1914, which was \$6.00 to \$9.50 per ton.



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DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

Truckee-Carson (continued).

An effort is being made by the local Cooperative Association to get in touch with all the prospective cattle feeders in the different parts of the State who feed range cattle during the winter with the hope of getting them directed this way. One party has already sought alfalfa pasture and alfalfa hay for furnishing one thousand head of steers in this locality. The owners of the hay are slow, however, about contracting at this time believing that a much better market will be available later on. To my knowledge, \$4.50 per ton has been the highest price offered for hay to be fed by ranchers to outside cattle. This necessitates the rancher providing corrals, feed racks and water, in addition to hauling the hay.

A very encouraging increase in receipts of butterfat by the local creamery is reported for the month of July. For June the local creamery reports having purchased 24,767 pounds of butterfat at an average price of 24.88 cents per pound. The July report shows 26,646 pounds of butterfat purchased at an average price of 26.7 cents per pound, making a net increase in expenditure for butterfat of \$957.66 for the month. The total expenditure for butterfat for July was \$7,121.66.

The number of miles traveled during the month in Government automobile was 800 miles at an average cost of 2.29 cents per mile.

A numerical statement of my various activities may be seen in the following items:-

Number of calls for assistance.....	83
visits.....	42
telephone calls.....	47
office visits.....	22
consultations in town.....	14
communications by letter.....	--
visits to local creamery.....	4
circular letters (Bureau of Exchange).....	1
visits or consultations regarding	
lump jaw.....	2



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WESTERN IRRIGATION AGRICULTURE  
Field Notes

Truckee-Carson (Continued)

Activities for the week continued:

Hay market.....	5
Herd testing,.....	19
Co-operative association,.....	4
Sterility,.....	11
Garget,.....	14
Warts on udder.....	1
Buying sheep,.....	6
Buying cattle,.....	9
Foot rot in sheep,.....	2
Hog feeding,.....	8
Milk fever,.....	1
Circular letter,.....	2
Lice on hogs,.....	1
Suspected hog cholera,.....	3 (no cholera)
Colic,.....	2
Visits to new herds,.....	5.
Difficult farrowing,.....	2
Paralysis in pigs,.....	3
Grease heel,.....	3
Thumps in pigs,.....	1
Tuberculin test,.....	4
Lacerated udder.....	5
Buying pigs,.....	1
Impaction,.....	2
Milking machinery ,.....	2

During the week ending August 7 there were received 21 calls for assistance and 14 farms were visited. Most of these calls for assistance pertained to work in connection with dairy cattle. A great many calls were on account of sterility in dairy animals. This trouble seems to be quite general throughout the project. Most of the cases I have been unable to account for.

There is considerable activity in connection with herd testing throughout the project. Every inducement is offered to get records of dairy herds made. Practically all the testing is done at the laboratory on the Government Experiment Farm, by me. Cases of sample bottles containing preservative is supplied to the dairymen together with milk scales for this purpose, the outfit being returned each time with the samples.



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DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

## Huntley.

During the week ending August 7 one case of swine sickness was reported, which was investigated on August 4. A sick pig was killed and a post-mortem held. Some indications of cholera were found but not sufficient to diagnose the case as cholera. On August 7 another visit was made to this herd and another post-mortem held. Very positive indications of cholera were found. Dr. Smith, upon examination of the kidneys and lungs, confirmed the diagnosis. This herd of 150 pigs will be vaccinated as soon as the serum arrives.

Reports on the four herds recently vaccinated were received. In two of the herds no disease had appeared and no losses occurred after vaccination. In the two infected herds five pigs died after vaccination, one belonging to Mr. Fowler and four belonging to Mr. Carlson, making a total of nine for Mr. Fowler and eight for Mr. Carlson.

Twenty-four milk samples were tested and eighteen farm visits were made during the week.

## Tieton.

Testing milk for the Cottonwood Canon farmers was the most important and interesting work during the week ending August 7. Samples were tested from 37 cows and their performances for the month of July were fairly satisfactory. The hog demonstrations were visited but no weighings were made because the farmers were very busy with haying.

Butterfat is still selling at 26 cents. Prime hogs have dropped to \$6.50 and are plentiful at that figure. The local buyers plan to pay about one dollar below coast prices and are complaining that they can hardly afford to give \$6.50 now. The hog that has had nothing but alfalfa pasture is especially unpopular on the market at present. Fifty "stocker" pigs at 150 to 175 pounds were sold to a feeder about ten days ago at \$7.00.

A call in regard to a potato disease was referred to the horticultural inspector. The trouble was diagnosed as potato blackleg. Several large fields in one section of the Project are reported damaged. So far as can be learned this is the first appearance of this disease on the Project.



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DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

## North Platte.

During the month of July personal letters were mailed out to about 105 hog raisers on the Project, asking for information concerning their spring pig crop. In these letters the following questions were asked: Predominating breed of hogs raised: Number of sows to farrow during the spring (1915): Total number of live pigs farrowed: Total number of pigs raised to date or to weaning time: If there have been losses what were the principal causes. Up to the present time 40 replies have been received. Later, when more reports have been received, a report will be made based on information sent in in reply to the questions asked. This information is desired in order that the losses on farms where good farrowing quarters were provided may be compared with the losses where inadequate farrowing quarters were provided. When this information has been secured it will be used as an argument for better swine quarters on the farms on the Project.

There is more or less tendency among the farmers to grow their hogs too large to secure the highest selling price on the Denver market. That market prefers hogs weighing from 190 to 225 pounds. Hogs weighing over 225 pounds are very likely to always sell under hogs of equal quality but lighter in weight. Recently two carloads of hogs were shipped from the Valley to Denver. Both were of about the same quality but one weighed on an average of 205 pounds and the other 258 pounds. The light load sold for \$7.15 and the other for \$6.80. This discrimination against large hogs is probably due to the fact that a very large percent of the Denver packing house trade is with fresh meats. Where any great amount of large hogs are bought by the packing houses in Denver it is often necessary to dispose of them in the south and to do so means increased freight rates over eastern packing houses.

Swine Feeding.

During the last half of the month of July large number of hogs were started on a fattening ration. This consisted almost entirely of corn and alfalfa pasture. Most of these hogs will be marketed in September. The self-feeder is rapidly becoming more popular on the Project for fattening hogs. In the



21 August, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

## North Platte (continued).

hog feeding demonstration work that is being carried on with the farmers the self feeding method will be compared with the hand feeding method for fattening hogs on alfalfa pasture.

Four hog feeding demonstrations were started during the month. Two of them were spring shoats receiving corn and alfalfa pasture. The other two were with older hogs that are receiving corn in a self-feeder and have access to good alfalfa pasture.

It is very easy to find farmers who would like to carry on hog feeding demonstrations but often conditions are such that they are unable to carry out the work as accurately as desired. For this reason the farmers that are now conducting feeding demonstrations have been selected with care.

There is a marked increase in the average of barley on the Project this year. Much of it will be utilized as hog feed. An effort will be made to secure some hog feeding demonstrations in which barley will be used.

During the month a large number of farmers were advised concerning a satisfactory ration for fattening hogs and spring pigs on alfalfa pasture.

The second weights were taken during the month of the herds of J. W. Hall and J. W. Lambertson, who are conducting feeding demonstrations. Both demonstrations are being continued.

During the month 29 cars of hogs were shipped from the Valley. Average price received per 100# was \$7.20. Total receipts were \$37,584.00. During the month of July, 1914, 13 cars of hogs were shipped from the Valley. The average price for these hogs was \$8.45 per 100# and the total receipts \$19,700.00. The month of July, 1915, shows an increase of 16 cars of hogs shipped and an increase of \$17,884.00 received for the hogs.

The report of the J. W. Lambertson hog feeding demonstration from June 12 to July 17, 1915, is given on the following page:



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DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

North Platte (continued).

J. W. Lambertson Hog Feeding Demonstrations.

Date first weighed..... June 12.  
 Date of second weighing July 17.  
 Total days between weighing periods..... 35  
 Number of shoats in demonstration..... 40  
 Initial weight (pounds).....1365  
 Average initial weight (pounds).....34.1  
 Average age at initial weighing (weeks)..... 10  
 Final weight (pounds).....2443  
 Average final weight (pounds).....58.5  
 Total gain (pounds)..... 978  
 Average total gains (pounds) .....24.4  
 Average daily gains (pounds)..... .72  
 Value of gains @ 7¢ per pound.....\$68.46  
 Corn fed (pounds).....1892  
 Shorts fed (pounds)..... 750  
 Cost of corn, 1500 lbs. @\$1.36 cwt- 3921 lbs.  
     @\$1.45 cwt.....\$25.48  
 Cost of shorts fed, 750 lbs. @ \$1.55 cwt...\$11.62  
 Total cost of grain fed.....\$37.50  
 Grain cost per 100 lbs. gain.....\$ 3.85  
 Net returns per acre for 35 days for 5 acres  
     alfalfa grazed, hogs @ 7¢ per lb.....\$ 6.15

These shoats had access to a 5-acre alfalfa pasture which could have carried several more shoats.

The demonstration will be continued until Sept. 1, when the shoats will be weighed again. After Sept. 1 the bunch will be divided. A part of them will be fattened and the others kept for brood sows. An account will be kept of the fattening apparatus.

Hog Houses, Dipping Vats, etc.

One concrete dipping vat was planned during the month. Later an active campaign will be made towards encouraging the farmers on the Project to build more substantial hog houses, especially farrowing houses.



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Field Notes.

North Platte (continued).

Swine Diseases.

No cholera outbreaks occurred during the month. So far but 10 outbreaks have occurred in the Valley since January 1, 1915.

This number of outbreaks occurred during the month of July, 1914, alone. It appears that the disease has temporarily checked. A number of suspected cholera cases have been investigated, but in every case the trouble was other than cholera.

During the month a manuscript was prepared, entitled "Suggestions Regarding the Control of Hog Cholera on Reclamation Projects".

Numerical summary of activities

Number of requests for service.....	43
farms visited,.....	58
hogs on farms visited.....	5830
callers at office.....	4
communications by letter.....	169
hogs vaccinated.....	50
hogs lost.....	0
Cost of treatment.....	\$12.50
Other treatments given.....	11
For lice.....	4
worms.....	1
sore mouth.....	1
Miscellaneous.....	5
Number of hog houses, dipping vats, etc. planned...	1
cars of hogs shipped from Valley.....	29
Average price received per lb. for hogs shipped	
f.o.b. V. P. ....	\$ .072
Total receipts for hogs shipped from Valley	\$37,584.00
Meetings attended,.....	2
Meetings held.....	1
Total attendance.....	25
Lectures given.....	1
Demonstrations given.....	1



21 August, 1915.

DEMONSTRATION ON RECLAMATION PROJECTS.  
Field Notes

North Platte (Continued).

Numerical summary of activities (continued)

Distance traveled (miles.....)	1841
By auto,.....	909
rail,.....	932

During the week ending August 14, two hog feeding demonstrations were started. One on the farm of Fred Young, in which 30 Duroc Jersey sows will be fattened in dry lots, receiving a ration of corn and alfalfa hay. The second demonstration started was on the farm of Mr. Noland. In this demonstration 85 grade sows will be fattened out. First they will receive corn and alfalfa pasture; later, they will get green corn, old corn and alfalfa hay in a dry lot. In addition to the sows fed by Mr. Noland, 59 spring pigs will be included in another demonstration. These pigs will receive corn and alfalfa pasture as long as pasture is available.

In weighing the 59 shoats for Mr. Noland's demonstration it was necessary to take two weighings, i.e., to weigh the shoats twice. There was a difference of just 4 pounds in the two weighings. This shows that the steel-yard weighing outfit is giving good results. The heaviest load yet weighed on the steel-yards is 798 pounds.

Two bunches of shoats were given the American Worm Seed oil treatment for worms during the week. The treatment consists of 40 drops of American Worm Seed oil and one table-spoonful of castor oil per shoat. No results were obtained in one herd treated. The castor oil did not physic the shoats and practically no worms were passed. It is not known that the shoats were infected with worms, but it is thought that they were. No report has been made on the second bunch treated.

So far it has been found very difficult to get the shoats to eat the American Seed oil even after they have been kept off feed 24 hours. They almost absolutely refuse to eat it when mixed with a thin slop. Best results have been obtained by mixing it with a small amount of shelled corn. Enough corn



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DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

## North Platte (continued).

should be used so that it will not be thickly covered with the oil.

Another carload of 137 shoats were shipped to the State Serum Plant by the Farmers' Cooperative Commercial Co., at Morrill, during the week. The shoats averaged 98 pounds. Price paid farmers, \$7.65 cwt. The Company received \$7.75 from the State, or, in other words, the Company charged the farmers 10¢ per cwt. for handling their shoats.

One mild case of hog cholera was found. The herd was at once vaccinated and all sick hogs quarantined and the neighbors warned. Every possible effort will be made to prevent the disease from spreading to adjoining herds.

The following law was passed by the State Legislature at the last session of that body:

"Any swine which die from any cause whatever, or which are killed for any cause, except for meat consumption, shall be burned by the owner on the premises where the animal died within forty-eight hours after death. Any person violating this section shall be guilty of a misdemeanor and upon conviction thereof be fined in any sum not less than twenty-five (\$25.00) dollars nor more than five hundred (\$500.00) dollars."

The County Fair Association are offering the following prizes to the members of the Boys' Pig Club:

- I. Best pure bred pig, any age or breed.  
1st. \$10: 2nd. \$5: 3rd. \$2.50: 4th. \$1
- II. Best grade pig, any age.  
1st. \$10: 2nd. \$5: 3rd. \$2.50: 4th. \$1
- III. Best group of three pigs, pure bred or grade.  
1st. \$10: 2nd. \$5: 3rd. \$2.50.



## WESTERN IRRIGATION AGRICULTURE

## Huntley.

The maximum temperature for the week ending August 14, was 91 and the minimum 50.

Hauling of second crop of alfalfa was completed. The hay was cured in good condition, there being no rain to damage it. Harvesting in field L-III and IV was started. The oats and wheat in this field are rather badly affected with rust. Sugar beets, potatoes, and corn are being irrigated for the first time.

Field K

Following are the crops that were irrigated in field K: First year alfalfa for the second time; second and third year alfalfa, for the fourth time; sugar beets, corn, and potatoes, for the first time.

Wheat was cut on plats K-II-7 and K-II-8. Roadways and alleys in Field K were hoed for the second time.

Hogs in feed lot, and on pasture in rotation 67, made the following gains:

Hogs on Feed Lot.  $3\frac{1}{2}\%$  corn.

No. Days	No. Hogs	Initial Weight	Gain	% daily gain	Total gain per day	Amount grain fed	Profit
8	1	294	18	1.00	2.25	82.32	18 lbs. pork at 7 cents, ..... \$1.26 82.3 lbs. corn at \$1.00 per cwt. .82 \$0.44
10	4	1095	63	1.00	6.3	383.25	63 lbs. pork at 7 cents, ..... \$4.41 383.25 lbs. C. \$1. per cwt., 3.83 58

Spring Pigs on Alfalfa Pasture, 2 % corn.

Number days	Number hogs	Initial weight	Gain	% daily gain	Gain per day	Daily return per acre
10	8	401	60	1.01	6.0	\$ 1.28



28 August, 1915

WESTERN IRRIGATION AGRICULTURE  
Field Notes

## Huntley (Continued).

During the week ending August 21, the maximum temperature was 90 and the minimum 52.

Threshing of grains in dry land rotations was nearly completed. Corn in fields B-II and III was irrigated. The corn crop is about ten days late and with the usual weather conditions is doubtful if it will mature fully before frost.

Plat B-V-4, pasture mixture planted in April without nurse crop, is being fenced to be pastured during the remainder of the season. The grass in the plat is making excellent growth and should furnish good pasture.

Wheat planted as nurse crop in field B-V with pasture grasses is being harvested.

Messrs. F. D. Farrell, W. A. Peterson and Max Pfaender visited the station during the week.

Several farmers also visited the farm and much interest was shown, especially in the pasture work and several have expressed their intention of starting pastures next season.

The annual Project Picnic was held at Baird's Grove, west of Worden, on August 21st. Work is progressing favorably on the construction of the granary and bunkhouse.

## Belle Fourche.

During the week ending August 14 the maximum temperature was 84 and the minimum 51, precipitation T.

Hauling of second cutting of alfalfa was finished and all alfalfa in fields A, I, and K, was irrigated.

All grains are ripening fast and harvest is about half completed. Plats A II 35 and 36 were fenced after the second crop was mowed and seven pigs were turned on each plat. Total weight, A II 35, 341 pounds and A II 36, 327 pounds. The lot on A II 35 is fed two per cent. shorts and the lot on A II 36 two per cent corn.

It was noticed with a farmer feeding shorts to a lot of hogs and corn to another lot, that the lot fed shorts seemed to do much better than the corn fed lot. Shorts at the present time is much cheaper than corn and if shorts will produce as good gains as the corn it would be more desirable to use.



28 August, 1915.

## WESTERN IRRIGATION AGRICULTURE

Field Notes

## Belle Fourche (Continued)

The following table shows the yields of the second cutting of alfalfa in the irrigated rotations in Field A.

Rotation Number	Plat Number	Yields		Height at maturity inches	Age of plants in years
		Lbs. per plat	Tons per acre		
8	I-51	740	1.48	18.0	4
40	I-1	(b) 660	1.32	24.0	2
42	I-5	790	1.58	22.0	2
44	III-19	630	1.26	18.0	2
44	III-22	620	1.24	22.0	1
48	II-19	864	1.72	22.5	2
48	II-22	986	1.96	30.0	1
60	I-10	770	1.54	21.0	2
60	I-11	630	1.26	20.0	3
61	II-14	800	1.60	18.0	2
61	II-15	710	1.42	19.0	3
62	II-8	780	1.56	22.0	2
62	II-9	730	1.46	20.0	3
65	III-13	590	1.18	22.0	1
65	III-14	600	1.20	18.0	2
65	III-15	(a)			3
69	II-32	690	1.38	19.0	3
69	II-33	650	1.30	18.0	3
69	II-34	(a)			3
Maximum		986	1.96	30.0	
Minimum		590	1.18	18.0	
Average		720	1.44	20.8	

(a) Hogged.

(b) This plat was damaged last fall by seepage water so that one corner is completely bare.

Average, one year old, 3 plats..... 1.46  
 " two " " 8 plats,..... 1.47  
 " three " " 5 plats,..... 1.36  
 " four " " 1 plats,..... 1.48.



28 August, 1915.

WESTERN IRRIGATION AGRICULTURE  
Field Notes

## Belle Fourche (Continued)

The above table shows the average yield to be 1.44 tons per acre which is .41 of a ton higher than the average yield of the first cutting. The average height at maturity is two inches above that of the first cutting.

There is no significant difference in the average of the plats of the different ages.

The yields of the plats in the manner of seeding experiment, started in 1914, are given in the following table:

Method.	Plat No.	Time of seed- ing	Tons per acre	Height at maturity inches
Without nurse crop (early).....	II-37	5/8	1.12	19.0
" " " (late).....	-38	6/11	1.36	20.0
Nurse crop of wheat cut for hay	-39	5/8	1.50	22.0
" " " " " " grain	-40	"	1.48	22.0
Without nurse crop (early).....	-41	"	1.34	19.0
" " " (late).....	-42	6/11	1.40	20.0
Rows 21 inches apart,.....	-43	"	1.24	26.0
Nurse crop of wheat cut for hay	-44	5/8	1.56	23.0
" " " " " " grain	-45	"	1.06	21.0
Rows 21 inches apart,.....	-46	6/11	1.06	26.0
Nurse crop of oats cut for grain	-49	5/8	a.68	17.0
" " "barley " " "	-50	"	1.60	17.5
" " " flax " " "	-51	"	1.44	18.0
Without nurse crop (early).....	-52	"	1.16	16.0
Nurse crop of oats cut for grain	III46	"	1.06	20.0
" " "barley " " "	-47	"	1.08	20.0
" " " flax " " "	-48	"	1.20	19.0
Maximum,.....			1.60	26.0
Minimum,.....			.68	16.0
Average,.....			1.25	20.3



28 August, 1915.

WESTERN IRRIGATION AGRICULTURE  
Field Notes

Belle Fourche (Continued).

## Average Yield (Tons per acre)

3	plats without nurse crop, sown May 8,.....	1.20
2	" " " " " June 11,.....	1.38
2	" with " " of wheat cut for hay,.	1.53
2	" " " " " " " grain.	1.27
2	" in rows 21 inches apart,.....	1.15
2	" with nurse crop of oats,.....	.87
2	" " " " " barley,.....	1.34
2	" " " " " flax,.....	1.32

The yields for this cutting shows very much the same as for the first cutting. There is a slight difference in favor of the June 11 seeding over the May 8 seeding.

There is some difference in yield of alfalfa in favor of cutting the nurse crop for hay over cutting nurse crop for grain.

The plats where barley was used as a nurse crop gave the best yields, followed by flax, then wheat, then oats. For the first cutting the plats sown with flax as a nurse crop gave the highest yield while the plats sown with barley were third in yield. However, the differences in these yields are too small to be of any significance. The only nurse crop that shows a decided effect is oats. Here the yields have been uniformly low.

The plats sown in rows show lower yields than where sown in the ordinary manner.

The yields of the plats in the manner of seeding experiment started in 1913, were as follows:



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WESTERN IRRIGATION AGRICULTURE  
Field Notes

Belle Fourche (Continued).

Method of Seeding.	Plat No.	Time of Seeding	Yield		Height at maturity inches
			Lbs. per acre	Tons per acre	
Without nurse crop (early).....	III-33	5/9	660	1.32	20.5
" " " (late),.....	-34	6/5	(a)		
Rows 21 inches apart,.....	-35	"	(a)		
Nurse crop of wheat cut for hay.	-36	5/9	450	1.90	18.0
" " " " " "grain	-37	"	450	1.90	18.0
Without nurse crop (early),.....	-38	"	500	1.00	18.0
" " " (late),.....	-39	"	(a)		
Rows 21 inches apart,.....	-40	6/5	(a)		
Nurse crop of wheat cut for hay	-41	5/9	456	.90	21.0
" " " " " "grain	-42	"	544	1.08	21.0
Without nurse crop (early).....	-43	"	460	.92	19.0
" " " (late).....	-44	6/5	(a)		
Rows 21 inches apart,.....	-45	"	(a)		
Maximum,.....			660	1.32	21.0
Minimum,.....			450	.90	18.0
Average,.....			502	1.00	19.3

(a) These plats were left for seed.

## Average Yield (Tons per acre)

3	plats	without	nurse	crop,	sown	May	9,	.....	1.08
2	"	with	"	"	of	wheat	cut	for	hay, ....
2	"	"	"	"	"	"	"	"	grain, ...

Here there is practically no difference in the yields of plats where the nurse crop was cut for grain and where it was cut for hay.

The yields of the plats in the rate of seeding experiment, started in 1914, field I, are given in the following table:



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WESTERN IRRIGATION AGRICULTURE  
Field Notes

Belle Fourche (Continued).

Plat number	Rate of seeding. Pounds per acre.	Yield		Height at maturity inches	Stand per acre thousands
		Lbs. per plat	Tons per acre		
1	2.5	130	1.30	23.0	102
2	3.0	170	1.70	23.0	118
3	4.5	190	1.90	23.0	129
4	6.0	180	1.80	23.0	148
5	8.0	200	2.00	24.0	143
6	10.0	230	2.30	24.0	149
7	11.5	212	2.12	24.0	189
8	13.0	198	1.98	23.5	193
9	15.0	170	1.70	23.5	184
10	16.5	180	1.80	23.0	197
11	18.5	160	1.60	22.5	180
12	20.5	170	1.70	21.0	199
13	22.5	170	1.70	20.5	176
14	25.0	170	1.70	20.5	224
Maximum.....		230	2.30	24.0	224
Minimum.....		130	1.30	20.5	102
Average,.....		180	1.80	22.7	166.5

It is of interest to note in the above table, the uniform increase in height of the alfalfa up to where sown at the rate of 11.5 pounds per acre and the uniform decrease from the point with the increase in amount of seed sown per acre. The yield per acre increases fairly uniform up to about this same point and then decreases, but not so uniformly, as the rate of seeding increases.

The yields of the plats in the rate of seeding experiment, started in 1913 is shown in the following table:



28 August, 1915.

WESTERN IRRIGATION AGRICULTURE  
Field Notes

Belle Fourche (Continued).

Plat number	Rate of seeding. Pounds per acre.	Yield.		Height at maturity inches	Stand per acre. (thousands)
		Lbs. per acre	Tons per acre		
1	2.5	110	1.10	24.0	97
2	3.0	150	1.50	24.0	98
3	4.5	145	1.45	22.5	102
4	6.0	155	1.55	20.0	143
5	8.0	130	1.30	19.0	147
6	10.0	140	1.40	19.0	159
7	11.5	110	1.10	18.0	196
8	13.0	120	1.20	18.0	194
9	15.0	140	1.40	17.5	222
10	16.5	120	1.20	17.0	234
11	18.5	120	1.20	16.5	243
12	20.5	110	1.10	16.5	258
13	22.5	130	1.30	16.5	263
14	25.0	110	1.10	16.5	307
Maximum.....		155	1.55	24.0	307
Minimum,.....		110	1.10	16.5	97
Average,.....		127	1.27	18.9	190.2

In the above table the height of the alfalfa decreases rather uniformly as the amount of seed sown per acre increases.

The maximum yield was obtained where six pounds of seed was sown per acre.

WEEKLY BULLETINS  
Bound Copies -

Bound copies of Volume VII of the Weekly Bulletin are being sent out. If any of the field men have complete sets of the loose numbers of this volume, it is requested that they be sent in to this office for possible future use.



DEMONSTRATIONS ON RECLAMATION PROJECTS  
Field Notes

Tieton.

During the week ending August 14, a visit was made to the College of Agriculture at Pullman for the purpose of taking up some of the local problems with the state people. The state college has not done much work in the Yakima valley and are not fully acquainted with the problems of the irrigation farmers. Dairy extension, cow pastures, crops allied to dairying and hog production and farm management problems were the principle topics discussed. The college farm is stocked with some very good livestock, the aged brood sows especially make a good impression.

Three farm surveys were made during the remainder of the week, two milk scales which had been bought co-operatively were delivered and scales which had been loaned until this delivery were taken up. Two of the farms where surveys were made are now weighing their milk and tests will be made once a month.

The cream marketing situation is still unchanged except that the inspection at centralizers is more strict. One lot of cream has been returned to the valley as unfit for butter.

During the week ending August 21, milk samples from 37 cows in 7 herds were tested. Five farm surveys were made and plans for finding the value of skim milk fed to pigs discussed with two farmers. Seven other farmers will begin testing their herds for milk production as soon as the majority of their cows freshen.

The Tieton Farmers annual picnic was held at Cowichee on August 19. About 550 people were present. United States Senator Jones of Yakima, talked of the progress and development of the Tieton in the last few years and of national legislation particularly affecting the farmers. Mr. I. D. O'Donnell, U. S. Reclamation Service, talked of the value of thorough cultivation, livestock, community co-operation and rural credit.

Mr. Bennett has 15 pure bred two year old Holstein heifers due to freshen within the next two months. He bought these near Seattle at \$150 a piece. The freight was \$50 for the load, making the cost \$153.33 cents per head. This importation is a valuable addition to the dairy interests on the project for Mr. Bennett intends to cull out his grade cows



## DEMONSTRATIONS ON RECLAMATION PROJECTS.

## Field Notes

## Tieton (Continued).

and eventually keep only pure bred stuff. The heifers will be put on yearly tests as soon as they freshen.

The Naches Ridge community in which cows are being tested is deeply interested in the work. Three farmers met at Mr. Arnim's farm this week and a fourth phoned that he could not come because of unlooked for business. A fifth asked that the test be made at his farm this time but is now planning to meet with his neighbors next month. Mr. Cadwallader will begin testing as soon as his cows freshen but met with the others at Mr. Arnim's to "talk cow". One of the farmers brought up the subject of silage feeding as compared with the soilage system and the discussion was interesting and valuable.

Mr. Rudd invited all to meet at his farm next month.

## Truckee-Carson.

During the week ending August 14, there were received at this office 35 calls for assistance. Fourteen of these calls were made in person at the office and twenty one by telephone. During the week 16 farms were visited in response to calls for assistance. Up to the present very few farmers have been visited without a call from the farmer, and new acquaintances are made in this way as fast as they can be taken care of. When the farmers take the initiative in this connection, the field man is always sure of a welcome, and when he has fulfilled the service for which he was called he gains the good will and co-operation of the farmer visited as well as that of his neighbors.

The work of the past week has been of a varied character as is quite common with field men. Among the subjects that have been considered during the week, the most attention has been paid to pink eye in cattle, the use of fly repellent, dairy sanitation, pig feeding, abortion and sterility.

Several consultations have been held with farmers desiring to purchase dairy cattle and sheep.

There is a gradual increase in the interest in herd testing. One of the features of the past week's work has been



DEMONSTRATIONS ON RECLAMATION PROJECTS  
Field Notes

Truckee-Carson (Continued).

the interest in the adoption of a sanitary milk pail which I have introduced here. No serious objection has been offered to the use of the pail on account of it's inconvenience or cost. The principal virtues of the pail are a strainer through the milk enters the pail, and the covered top excluding all dust and dirt, which also prevents the loss of milk by accidents which frequently happen to the milker. The first object in sanitary milk production is to keep foreign matter out of the milk, and if sentiment for these sanitary milk buckets and the adoption of other sanitary features continue to receive attention, our local creamery will have little difficulty in putting out a first class product. Photographs and specifications will be gladly furnished any one interested.

Considerable complaint has been received concerning the presence of pink eye during the past week. Since it is the time of year when pink eye is likely to become quite general throughout the project it is my intention to publish an article in the local paper or send out a circular letter bearing on this disease.

Shoshone.

During the week ending August 14, 20 farms were visited, 5 men called at the office, 2 letters were written, milk, cream and skim milk were tested for one man.

Several of the boys in the Boy's Pig Club were visited. Most of them have finished the feeding period and are holding the pigs to show at the local fair.

One man was given plans for a concrete floor and manger in his cow barn. Cow barns are universally of inexpensive structure because cows are seldom kept in them except while they are being milked.

Men who are feeding alfalfa silage still report satisfaction with it for a summer feed. One man reports that his cost per acre for ensiling the alfalfa was \$13.25 while it would have cost only \$6.50 per acre to put the hay in the stack yard near the barn. However he thinks it pays



DEMONSTRATIONS ON RECLAMATION PROJECTS  
Field Notes

Shoshone (Continued)

to put alfalfa in the silo because no leaves were lost and the cows eat all of the stems and they relish the silage more than they do the hay. He estimated the yield of his first cutting of hay at 3.25 tons per acre. It was a very heavy growth and was cut very late. Another man who estimated his hay at 3-4 tons per acre figured that the cost per acre for putting it in the silo was \$4.35 while it would have cost him \$2.00 per acre to put it in the hay in the stackyard.

The tendency now is to begin feeding grain to shoats and pigs where they had not yet been receiving grain on account of its high price. Some men are beginning to feed the new grain in the sheaf and some men are beginning to feed old grain now that new grain is in sight. Old oats can be bought for \$2.00 per cwt. now while they were recently selling for \$2.35 per cwt.

Several men report that cows starting on second cutting of alfalfa hay are increasing in their milk.

Some losses from poisoning are reported among the cattle on the reserve range.

Huntley.

During the week ending August 14, 161 pigs were vaccinated for Paul F. Sherman. Up to the time the vaccinating was done, Mr. Sherman had lost 5 small pigs. No losses have occurred since vaccinating. The cholera situation on the Huntley project can hardly be considered serious. Every case so far reported, has been of a mild nature and it should not be difficult to control it. A circular letter on hog lice destruction was prepared during the week.

The demonstration work with Mr. Pickens is progressing very satisfactorily. Fifty-six pigs which are being allowed to hog off rye, gained 415 pounds during the second 10 day period, an average of .74 lbs. per pig, per day.



## DEMONSTRATIONS ON RECLAMATION PROJECTS

## Field Notes

## Huntley (Continued)

The following table contains an estimate of amount and value of dairy products sold from Huntley Project, during the month of July:

Butterfat			Whole Milk		Sweet Cream at \$1.00 per gal		Sweet Cream at 30¢ per Lbs.	
Pounds	Price	Value	Gal.	Value	Gals.	Value	Pounds	Value
3147	23 $\frac{1}{2}$ 22	\$739.54	400	\$60	310	\$ 310	837	\$251.10

Butter Sold locally		Cheese		Total value
Pounds	Value	Pounds	Value	
700	\$154	200	\$30	\$1544.64

A marked falling off in the amount of butter sold to local merchants and an increase of sweet cream shipments is noticeable. Out of 134 shipments of cream from the Huntley Project farmers to the Yellowstone Creamery, during the month of July, 79 were received sweet.

## AUTOMOBILES

Vouchers covering supplies for.

In the case of vouchers covering supplies for government owned automobiles the Bureau auditors ask that the make and the number of the machine for which the supplies are purchased shall be shown on the voucher. This information is necessary in order that the cost of maintenance and operation of automobiles may be segregated in the records.



4 September, 1915.

## WESTERN IRRIGATION AGRICULTURE.

## FIELD NOTES.

Huntley.

During the week ending August 28, the maximum temperature was 85, minimum temperature 45, and precipitation .46 inch.

Harvesting of wheat in Field L-I and of oats in A-II was completed.

Barley in field L-II was threshed. This field was broken from native sod in September 1914, and was prepared for planting in spring of 1915 by double disking, harrowing and leveling. The crop was irrigated once. A beardless variety of barley, known as Success, was grown.

Following are the yields obtained:-

Plat No.	Pounds		Bushels per Acre
	Straw	Grain	
L-II- 1	285	455	37.9
- 2	275	420	35.0
- 3	371	439	36.5
- 4	544	552	46.0
- 5	548	510	42.5
- 6	596	516	43.0
- 7	584	540	45.0
- 8	573	555	46.2
- 9	516	532	44.3
-10	560	534	44.5
-11	447	487	40.6
-12	587	551	45.9
-13	562	534	44.5
-14	589	577	48.1
-15	540	526	43.8
-16	601	583	48.6
-17	361	543	45.2
-18	566	554	46.1
-19	593	557	46.4
-20	625	635	52.9
Average	516	530	44.1

Mr. Jas. Scilley, Agriculturist of the Billings Sugar Co., and Mr. Hugh Scilley, Manager of the Loveland, Colorado Sugar Co., visited the farm.



4 September, 1915.

## WESTERN IRRIGATION AGRICULTURE.

Field Notes.

## Belle Fourche.

During the week ending August 21, the maximum temperature was 85, minimum temperature 55, and precipitation .10 inch.

The harvesting of small grains is very nearly completed.

During the week, potatoes, beets, and corn have been irrigated. The corn is very late and will take at least another month to mature.

Mr. Knorr and Mr. Holden visited the station on the 18th and 19th.

During the week ending August 28, the maximum temperature was 81 and minimum temperature 40.

The harvesting of all grains is completed and thrashing commenced.

Third cutting of alfalfa was irrigated in field A and the rate of seeding test in field L. The alfalfa in A-II, 5 and 6 was fenced and ten lambs, total weight, 755 pounds, were turned in on the 26th. There has been no sign of bloat to date.

Mr. Max Pfaender of the Mandan field station visited the farm from the 23rd to the 26th and a trip was made through the hills looking up material that might be used for propagating purposes.

## Scottsbluff.

The weather during the week ending August 21 has been no better than that of the previous week. Threshing of the grain was commenced on Wednesday, the 18th, but had to be postponed on account of rain.

On account of the rain and hail the work of a number of the men has been dispensed with, as we will not need so much help from now on.

The men were kept busy cutting weeds and otherwise cleaning up around the place.

Another hail storm struck this section this week. This time it affected the east end of the Dutch Flats country and a portion of Spottedtail country. So far we have been unable to learn the extent of the damages.



4 September, 1915.

WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

## Truckee-Carson.

During the week ending August 14, the maximum temperature was 96, minimum 46, and precipitation .00.

During the week the threshing machine was put into order and moved to the ranch of A. R. Merritt where the wheat varieties were threshed. A detailed report on the acreage and yield of the different varieties will be given at a later date.

Work on installing the bathroom fixtures in the dormitory and mess house was begun the last of the week.

Mr. Headley departed by auto for San Francisco on the 14th and will be gone until the 31st.

During the week ending August 21, the maximum temperature was 98, minimum temperature 52, and precipitation .00.

Fields E-1-2-3, F-1 to 8 inclusive, H-1 to 22 inclusive, and the gardens were irrigated.

The new sewer system for the dormitory and mess house was completed and all the plumbing installed.

The pigs on pasture gave very satisfactory results for the week of August 7th to 14th, but for some unaccountable reason did practically nothing the following week. The feed and water remain the same and there is no indication of over-pasturing the alfalfa in the least. In fact at no time have the pigs been able to entirely keep up with the growth of the alfalfa. It would perhaps appear from the results obtained that one-half of the pasture was not as good as the other but all outward indications show no difference. Following is a table showing the gains each week and the pasture upon which the pigs fed for that week.

<u>Week Ending.</u>	<u>Pasture</u>	<u>Gains.</u>
May 22	North half	14.0 pounds
" 29	South half	22.0 "
June 5	North half	29.5 "
" 12	South half	20.5 "
" 19	North half	21.0 "
" 26	South half	8.5 "
July 3	North half	31.0 "
" 10	South half	19.0 "
" 17	North half	27.0 "
" 24	South half	30.5 "
" 31	North half	42.5 "
Aug. 7	South half	24.5 "
" 14	North half	51.5 "
" 21	South half	23.0 "



4 September, 1915.

WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

## Truckee-Carson (continued)

From the preceding table it is seen that with the exception of the weeks ending May 22nd and July 24th, the largest gains have always been on the north half of the pasture. The cause for this difference is not apparent at the present time.

Following is the summary of the pasture experiment for the 13th and 14th periods:

## Thirteenth Period, August 7 to 14 (7 days)

	Durocs	Berkshires	Total
Number of hogs.....	5	5	10
Initial weight, pounds.....	384.5	296.0	680.5
Final weight, pounds.....	415.0	317.0	732.0
Total gain, pounds.....	30.5	21.0	51.5
Daily gain, pounds.....	4.35	3.00	7.35
Daily gain per acre, pounds.....	34.8	24.0	29.4
Daily gain, per cent.....	1.10	.98	1.04
Barley fed, pounds.....	53.8	41.5	95.3
Cost of barley @ $1\frac{1}{2}\phi$ per pound.....	.81	.62	1.43
Value of gain @ $7\phi$ per pound.....	2.13	1.47	3.60
Net return.....	1.32	.85	2.17
Daily net return per acre.....	1.52	.97	1.24

## Fourteenth period August 14 to 21 (7 days)

	Durocs	Berkshires	Total
Number of hogs.....	5	5	10
Initial weight, pounds.....	415.0	317.0	732.0
Final weight, pounds.....	433.0	323.0	756.0
Total gain, pounds.....	18.0	6.0	24.0
Daily gain, pounds.....	2.57	.86	3.43
Daily gain per acre, pounds.....	20.6	6.9	13.7
Daily gain, per cent.....	.61	.23	.42
Barley fed, pounds.....	57.4	44.5	101.9
Cost of barley @ $1\frac{1}{2}\phi$ per pound.....	.86	.67	1.53
Value of gain @ $7\phi$ per pound.....	1.26	.42	1.68
Net return.....	.40	-.25	.15
Daily net return per acre.....	.457	-.286	.086



4 September, 1915.

WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

Truckee-Carson (continued)

Total all Periods May 16 to August 21 (97 days)			
	Durocs	Berkshires	Total
Number of hogs.....	5	5	10
Initial weight, pounds.....	224.0	166.0	390.0
Final weight, pounds.....	433.0	323.0	756.0
Total gain, pounds.....	209.0	157.0	366.0
Daily gain, pounds.....	2.16	1.62	3.78
Daily gain per acre, pounds.....	17.3	12.9	15.1
Daily gain, per cent.....	.68	.69	.685
Barley fed, pounds.....	596.7	448.1	1044.8
Cost of barley @ $1\frac{1}{2}\phi$ per pound.....	8.95	6.72	15.67
Value of gain @ $7\phi$ per pound.....	14.62	10.98	25.60
Net return.....	5.67	4.26	9.93
Daily net return per acre.....	.468	.351	.409



4 September, 1915.

## DEMONSTRATIONS ON RECLAMATION PROJECTS.

## FIELD NOTES.

## Minidoka.

Mr. E. F. Rinehart's report for week ending August 14.

The cooperative cheese factory at Acequia is now built and the machinery being ordered. A saving of over \$400 in the purchase of the machinery was brought about this week. It was also arranged to secure the services of a Government expert to work with the patrons of the factory and the cheese maker for the first two weeks after the factory starts.

Infection spread from the cholera outbreak reported last week to four other farms. Of the four cases found this week, three were of the chronic form and one of the acute type. From the post mortem it is impossible to tell which form is present in a herd. In the herd of Mr. Matson where the acute type appeared, the hogs were first noticed sick on Sunday. Monday night three died. By Tuesday 64 of the remaining 122 hogs were visibly sick. Temperatures of the visibly sick hogs ran from 105 to 107. Of the other infected herds, all of which had a chronic type of the disease, the percentage of those visibly sick was small except among the smaller pigs. Their percentage of high temperatures, however, was high. As Mr. Hansen had only three shoats on his farm, these were killed and burned rather than vaccinated.

The spread from the chronic form of cholera is much worse than when the disease is in an acute form. In the case of the chronic type the pigs become sick so gradually and so few seem sick at the start that the farmer is not apt to notice that the pigs are sick or may think that the trouble is not serious and neglect to send in a call. In the acute form a call is soon received and quarantine precautions taken in time to prevent the spread of the infection.

Report for week ending August 21.

Calls for investigating sickness in hogs were numerous. This was for two reasons, first because all district leaders and survey men in adjoining districts to the one where the outbreak occurred within the last two weeks were notified to be on guard, second because of the new crop of grain which is being fed heavily to pigs that have been fed but little or no grain all summer. Of all the cases visited this week only two, those



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## DEMONSTRATIONS ON RECLAMATION PROJECTS.

Field Notes.

## Minidoka (continued)

of Mr. Brigg's and Crawford's were suspicious. Indications of cholera are present both places yet no herd is ever vaccinated until a positive diagnosis is made.

Results of the vaccination done this summer have been good in all except one case where the calls were received too late.

The outlook for the sale of the farm crops is good. Hogs are now at 6¢ and butterfat at 24¢. Range sheepmen are engaging the hay for their winter feeding at \$5.50. Because of the shortage of water other irrigation tracts nearby are buying some hay. There has been an abundance of water on the Project this year so that a surplus was sold to the Twin Falls North Side Tract. An alfalfa mill will be located at Rupert within the next few weeks. The building is now being constructed and the machinery has arrived. Representatives of the company were met in Burley on Saturday afternoon.

Money is more plentiful than at any time within the past year. Reliable farmers can now secure money to carry out their plans. However, as all money loaned is at 10% it cannot be used freely by anyone.

## Shoshone.

During the week ending August 21, 9 farms were visited, 23 cows were tested for 4 men, 4 letters were written, 1 man was given a demonstration in testing.

One day of the week was spent with Mr. Farrell visiting farms and discussing the work.

Three days were spent at the Huntley Experiment Farm and visiting Mr. Christopher.

The scales for weighing hogs have been received and it is hoped that some hog feeding demonstrations can be started soon.

Mr. H. W. Lovercheck keeps his cows in the dry lot and feeds them alfalfa hay alone. The returns for \$1.00 expended for feed for one cow in June were \$3.77, and in July were \$3.34, for another cow in May were \$1.00, in June \$4.78 and in July \$3.90, for another cow in May \$2.69, in June \$2.19 and in July \$1.17, for another cow in May \$2.48, in June \$2.42 and in July



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DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

## Shoshone (continued)

\$2.20, for another cow in May \$2.98, in June \$2.44 and in July \$1.96, for another cow in May \$2.30, in June \$2.05 and in July \$1.63.

Walter Bartlett gives his cows Brome grass pasture and alfalfa hay ad libitum and for each 4 pounds of milk a pound of a mixture equal parts by weight of alfalfa meal and sugar beet molasses. The returns for \$1.00 expended for feed were as follows:

<u>Name of Cow</u>	<u>Breed</u>	<u>Date Fresh</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>
Marie	Holstein	2/1/15	1.64	1.84	2.25	2.11
Katy	"	2/1/15		1.78	1.48	2.03
Mildred	Shorthorn	10/10/14	1.34	1.63	2.00	
Spot	Holstein-Jersey	9/25/14	1.51	1.76	1.77	
Nellie	Shorthorn-Jersey	6/13/15			1.11	2.22
Rose	Shorthorn	2/1/15	2.21	2.54	2.36	2.63
Daisy	Shorthorn-Guernsey	1/1/15	1.65	2.00	1.55	1.96
Bessy	Holstein	1/20/15	1.61	1.71	1.19	
Ruth	"	4/28/15		1.93	1.74	1.83
Molly	Guernsey			2.40	1.82	1.97
Belle	Jersey				1.20	1.59

G. W. Atkins fed hay alone and his returns for \$1.00 expended for feed were as follows

<u>Name of Cow</u>	<u>Breed</u>	<u>Age</u>	<u>Date Fresh</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>
Robber	Mixed	5 yrs.	12/14/14	2.24	2.33	2.47	2.25
Dolly	"	5 "	9/15/14	2.68	2.27	1.99	1.49
Busy Bee	Guernsey	2 "	1/1/15	1.80	1.53	1.57	1.68
Jesse	"	2 "	4/2/15		2.61	2.84	2.49
White Face	Mixed	3 "	12/ /15	1.69	1.65	1.49	1.44
Wapiti	"	5 "	8/ /15	1.92	1.77	1.20	
Fuzzy	"	5 "	9/ /14	2.08	1.40	.89	
Tiny	Guernsey	3 "	9/ /14	1.05	.99	.94	.72
Sunbeam	"	2 "	1/ /15	1.67	1.59	1.79	1.46
Goldie	"	2 "	4/9/15		2.59	2.59	2.12
Chink II	"	2 "	4/11/15			1.53	1.56



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## WESTERN IRRIGATION AGRICULTURE.

## FIELD NOTES.

Yuma.

During the week ending August 7, the maximum temperature was 112, minimum temperature 60, and the greatest daily range 43.

Fig and pecan orchards and also cotton, corn and grain sorghum plantings were cultivated.

The office and all dwelling buildings on the farm were wired in preparation for installing electric fans, power to be derived from a small dynamo driven directly by a two and one-half horsepower gasoline engine. More available office room is being provided by cutting doors in the two rear rooms of the office building, allowing better light and ventilation. Also additional shelf space for bulletins and laboratory ware has been added.

Several fields of alfalfa and Sudan grass on fields A-1 and 2 were harvested. Alfalfa seed experiment from fields D-16 and B-19 to 22 was harvested.

During the week ending August 14, a maximum temperature of 111.5 was recorded, with a minimum of 60, and the greatest daily range of 48. Thirty-one acres were irrigated. At this period of the season there are but a few crops that will carry more than fourteen days without irrigating.

A one-fifth acre planting of mulched potatoes was made on the 5th. Seed potatoes used were those produced from winter planted varieties. Planting potatoes at this season has never resulted successfully as the high temperatures produce decay in a very few days. It is thought that perhaps the mulching with straw may make their growth possible. By far the best variety found for this section, the Irish Cobbler, cannot be secured from coast seed houses and shipments from the East are always too late for winter plantings here. If by summer mulching summer seed can be grown a good potato yield can be secured from this variety if planted in early January. The seed will not keep in cellar storage through the hot summer.

Milo Maize was planted between seedling date rows on field A-16 and 18 to 21.

The deciduous orchard on B-series was again summer pruned and disced.

Grain sorghums on fields C-39 to 40, 44 and 45 and D-39 to 42 were cultivated.

The bunk house was given one coat of paint.



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## WESTERN IRRIGATION AGRICULTURE.

Field Notes.

## Yuma (continued)

During the week ending August 21, the maximum temperature reached 113, minimum 64 and greatest daily range 46.

On the afternoon of the 15th .13 inch of rain fell accompanied by a very severe wind which turned over all loose out buildings--uprooted eleven large cottonwood trees and broke tops from others. No damage was done to buildings but considerable extra work was occasioned in clearing away trees and clearing grounds. Alfalfa seed plots unthreshed were damaged. This storm fortunately covered a very narrow path in the Valley--or would have otherwise caused serious loss in unthreshed alfalfa seed.

Some excellent seed yields have been secured from the mediumly late seed crops, much of which has been sold uncleaned at from thirteen to fourteen cents per pound. Much seed is being shipped from the Yuma Project as far east as Chicago.

Cotton on A-7 was hoed. Pomegranates and fig orchards were disced.

The old stock corral was torn away and the construction of a new one begun.

The final authorized Board of "Cost Review" for the California Unit of the Yuma Project began their hearings on the 20th. This Board consists of Prof. B. P. Fleming and Dr. Elwood Meade. A part of the water users hearings are being held at the Experiment Farm.

Mr. H. N. Vinall arrived at the station on Thursday to spend several days studying hay sorghum plantings. Mr. D. B. Rothgeb spent Friday at the Experiment Farm.

During the week ending August 28 temperature was recorded as follows: Maximum 111, minimum 63, greatest daily range 44.

A rain of 1.2 inches fell on Thursday making field work impossible for two days--which is rather unusual. Labor was utilized in clearing grounds--sawing wood and constructing corrals.

The second cutting of hay from Sudan grass experiments on E-3 to 6 and D-13 was harvested. Alfalfa was harvested from E-7 to 9 and C-23 and 24.

The fig orchard on C-series, nursery on A-10 and numerous borders were hoed.

Eleven peach trees of Southern types in the variety planting, which are two and one-half years old have ripened fruit of excellent



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WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

## Yuma (continued)

quality this season, amounting to an average of one-half bushel fruit per tree-while several trees produced nearly a bushel each. We consider these unusual yields for trees of this age. Other varieties of equally vigorous trees of northern types or those varieties grown two hundred miles north of here set no fruit whatever.

Mr. Vinall left the station on the 28th for Pasadena.

## San Antonio.

The maximum temperature for the week ending August 28, was 96, minimum 70, and greatest daily range 23. Rain fell on three days, the total precipitation being 2.56 inches. The greater part of the precipitation came on Friday night, 2.25 inches being recorded on Saturday. This rain wet the soil to a depth of several inches, which will be of great assistance in plowing, as the soil has been so dry as to make plowing almost impossible.

The following rotation plats were plowed: A-6-7 and 9, and B-6-7. Plowing of D-3 was started.

The first picking of cotton on all the rotation plats was completed. The first picking of cotton for the Office of Crop Acclimatization has also been completed.

Several of the rotation plats were weeded, the weeding done being mainly that of cutting scattering patches of Johnson Grass.

The new residence being constructed on the Station is now inclosed, the laying of shingles being completed on Friday.

Mr. C. R. Letteer arrived on the 24th to resume charge of the rotation and tillage experiments at this Station. Mr. Hastings left for Washington on the 27th.

## Truckee-Carson.

During the week ending August 28, the maximum temperature was 99, minimum temperature 51, and precipitation .02 inch.

One man was employed during the week mowing alfalfa and sweet clover from the banks of the irrigation ditches. The hedges around the farm buildings were trimmed.



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WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

## Truckee-Carson (continued)

Nine varieties of wheat seeded April 11 on the farm of A. R. Merritt were threshed August 11 to 13. The yields are shown in the table below. Little Club was the highest yielding variety and ghirka the lowest. The latter variety, however, was overripe when harvested and shattered badly. Had it been harvested at the right time the yield would have been appreciably increased.

Variety	Plat 1			Plat 2			Average Yield per Acre	
	Area	Yield	Yield per acre	Area	Yield	Yield per acre		
							Pounds	Bushels
Little Club	.45	1150	2555	.56	1608	2871	2713	45.2
Dicklow	.45	1042	2316	.22	630	2864	2590	43.2
Rieti	.45	1107	2460	.33	890	2697	2579	43.0
Blue Stem	.45	1050	2333	.45	1138	2531	2432	40.5
Marquis	.67	1497	2234	.45	1123	2493	2364	39.4
Sonoro	.45	916	2036	.33	833	2524	2280	38.0
Ghirka	.45	946	2102	.22	460	2091	2097	34.9
Defiance	.67	1549	2312	?	637	--	?	?

A cooperative pig feeding experiment was begun July 31 on the farm of W. L. Suttan. Two Berkshire pigs weighing together 141 pounds were placed in a pen about 14 feet square and given a 2% ration of soaked rolled barley with as much alfalfa as they would eat. The pigs were not weaned until the beginning of the experiment.

The agreement with Mr. Suttan was that he should furnish the pigs, provide all the alfalfa hay, and one half the grain. The experiment farm provides one-half the grain and weighs the pigs once each week. Mr. Suttan cares for the pigs according to the instructions given him from the experiment farm.

The pigs are weighed every 7 days. The interval between weighings constitutes a period. Results are given in the table following for the four periods from July 31 to August 28 inclusive. The gains have been very satisfactory except during the second period when the growth of one of the individuals was retarded by castration. The average daily gain for all periods was 1.02%



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WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

## Truckee-Carson (continued)

	First period 7/31-8/7	Second period 8/7--8/14	Third period 8/14-8/21	Fourth period 8/21-8/28	All periods 28 days 7/31-8/28
Number of pigs.....	2	2	2	2	2
Initial weight, lbs.	141	150	157	168	141
Final weight, lbs...	150	157	168	183	183
Total gain, lbs.....	9	7	11.0	15	42
Daily gain, lbs.....	1.29	1	1.57	2.14	15
Daily gain, % .....	.89	.65	.97	1.23	1.02
Barley fed, lbs.....	19.7	21.0	22.0	23.5	86.2
Cost of barley @1-1/2	.30	.31	.33	.35	1.29
Value of gain @ 7¢	.63	.49	.77	1.05	2.94
Profit above cost...	.33	.18	.44	.70	1.65
of barley.....					
Hay fed, lbs.....	10	10	12	12	44
Value of hay @\$6....	03	03	04	04	.13
Net profit.....	.30	.15	.40	.66	1.52

## Scottsbluff.

The weather during the week ending August 28, was such that we were able to start out work at threshing the grains. The first few days some of the grain was a little moist but we felt that we should take advantage of the fairly dry conditions of the grain at the time. Much of the grain was beginning to rot and sprout very badly. We have been unable to figure any of the yields so far, but will try to send them in in our next weekly report.

On account of the very cool weather alfalfa and corn are progressing very slowly. Sunday night the thermometer went down to 38 degrees; at this temperature alfalfa is practically at a standstill.

On August 28, the Holstein cow, Beauty, bloated on the south end of pasture No. 6. There was very little alfalfa in this pasture. She was bloated to such an extent that the mere sticking with a knife did not relieve the animal in the least. She became worse and the only recourse that we had was to cut a rather large hole and pull out



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WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

## Scottsbluff (continued)

by hand much of the alfalfa that was in the paunch. Although the animal was considerable weaker she seems to be in a fair shape at the present time, and we hope that she will pull through, though the odds are against her.

The weather continued fair during the week ending September 4. A light shower fell on the night of September 4.

All threshing is completed except the flax, and as soon as this is dry enough this will be threshed. The alfalfa was seeded on field "K", also in the stubble field on field "D". Where the soil is very dry irrigation will be necessary to properly germinate the seed.

As stated in a previous report, the barley varieties were all cut and shocked before the hail storm. The yields secured from the barley were extremely high, and are as follows:

Plat No.	Variety	Yield per Plat		Yield per Acre	
		Straw Pounds	Grain Pounds	Straw Pounds	Grain Bushels
6	No. 90.....	234	202	5499	98.8
19	No. 90.....	223	209	5240	102.3
14	Scotch 4 row.....	207	203	4851	99.4
23	Scotch 4 row.....	221	205	5193	100.3
18	Barbary.....	178	186	4183	91.0
5	Barbary.....	213	227	5005	111.0
8	No. 206.....	201	205	4723	100.3
21	No. 206.....	180	212	4230	103.7
22	California Feed...	208	186	4880	91.0
9	California Feed...	213	213	5005	104.3
7	Minnesota No. 105.	203	189	4770	92.3
20	Minnesota No. 105.	173	173	4065	84.7
1	Symrna.....	240	136	5640	66.6
14	Symrna.....	117	85	2749	39.8
12	2 row hooded.....	217	145	5099	71.0
13	No. 680.....	232	184	5452	90.1
15	Svanhals.....	177	154	4159	75.4
2	Svanhals.....	207	163	4851	79.8
4	Moravian.....	239	207	5616	101.2
17	Moravian.....	229	211	5381	103.3



11 September, 1915.

WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

## Scottsbluff (continued)

Plat No.	Variety	Yield per Plat		Yield per Acre	
		Straw Pounds	Grain Pounds	Straw Pounds	Grain Bushels
16	Mariant.....	182	190	4277	93.0
3	Mariant.....	229	197	5381	94.2
11	Hanchen.....	234	204	5499	99.5
24	Hanchen.....	236	218	4546	106.7

The oat yields are much better than was expected. It will be noticed that at the north end of the series the yields were much better than at the south end. This is due to the fact that the hail did not strike as hard at the north end as at the south end. The same is true also with the barley that was grown on Series 3, field "C" and the wheat on Series 3 field "C", the hail storm leaving same almost untouched at the northeast end corner of the farm.

Oats

Plat No.	Variety	Yield per Plat		Yield per Acre	
		Straw Pounds	Grain Pounds	Straw Pounds	Grain Bushels
2	Kherson.....	131	97	3078	71.2
4	Kherson.....	190	110	4465	80.7
3	Iowa No. 3.....	251	82	5883	60.2
5	Iowa No. 3.....	170	75	3995	53.2
27	Canadian.....	429	77	10082	56.5
12	Canadian.....	308	92	7238	67.5
24	Danish.....	400	60	9400	44.0
9	Danish.....	276	50	6486	36.5
14	Big 4.....	309	62	7262	45.5
29	Big 4.....	204	46	4794	33.7
15	White Plume.....	241	55	5664	40.3
30	White Plume.....	327	79	7685	58.0
13	Wisconsin No. 1...	324	82	7614	60.2
28	Wisconsin No. 1...	292	62	6862	45.5
33	White Tartarian...	298	48	6003	35.2
18	White Tartarian...	332	68	7802	50.0



11 September, 1915.

WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

## Scottsbluff (continued)

Oats (continued)					
Plat No.	Variety	Yield per Plat		Yield per Acre	
		Straw Pounds	Grain Pounds	Straw Pounds	Grain Bushels
20	Black Anthony.....	310	36	7285	26.4
35	Black Anthony.....	362	29	8507	21.2
34	White Russian.....	276	42	6486	30.8
19	White Russian.....	306	64	7191	47.0
17	Rust Proof.....	295	51	6932	37.4
32	Rust Proof.....	218	42	5123	30.8
31	Dakota No. 4.....	274	46	6439	33.7
16	Dakota No. 4.....	265	66	6228	48.5
26	Swedish.....	246	44	5781	32.4
11	Swedish.....	232	62	5452	45.5
10	Garton's No. 5....	319	47	7496	34.5
15	Garton's No. 5....	273	47	6416	34.5
21	New Market.....	281	55	6604	40.3
6	New Market.....	329	87	7732	62.2
23	Golden Rain.....	364	56	8554	41.1
8	Golden Rain.....	317	63	7449	46.2
22	National.....	284	42	6674	30.8
7	National.....	362	76	8507	55.4

## DAIRY REPORT OF THE SCOTTSBLUFF SUB-STATION FOR THE MONTH OF AUGUST.

Since the hail, August 6, the pasture has made but very little growth. It was necessary to take the cows off the pasture for one week, when they were again put on. Even then the amount of feed furnished was very small.

The butter fat price has fallen to 20 cents per pound, and without exception the cows were kept at a loss during the month. It is hardly fair to charge up any pasture for the cows for this month, but this was done for the reason that they were run on these pastures. Unless the grasses make a sign of growth we may take them off the pastures by the middle of the month. In taking off the pasture charge and charging up the amount of hay consumed this month, even then, there is a loss.



11 September, 1915.

WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

## Scottsbluff (continued)

The following table gives the results of the past month's work:

Pounds Milk	Butter fat					Pasture Value	Hay		Profit or Loss
	Av. Test	Total	Market Price	Value of	Cost of		Lbs	Value	
Wonder 309.25	4.1	16.70	20¢	3.34	25.5	1.15	1246	3.11	- 0.92
Rose 316.5	4.4	13.92	20¢	2.78	30.6	1.15	1246	3.11	- 1.48
Marie 492.0	2.3	11.31	20¢	2.26	37.6	1.15	1246	3.11	- 2.00
Mabel 632.6	2.4	15.18	20¢	3.03	28.0	1.15	1246	3.11	- 1.23
Beauty 382.25	3.4	12.99	20¢	2.59	32.7	1.15	1246	3.11	- 1.67
Maud 454.0	3.2	14.52	20¢	2.90	29.2	1.15	1246	3.11	- 1.36
Stella 478.4	3.2	15.30	20¢	3.06	27.8	1.15	1246	3.11	- 1.20

Table showing amount and value of skim milk of each cow during August, 1915.

## Skim Milk

	Total Pounds	Value	Total Value
Wonder.....	263	25¢	\$ .66
Rose.....	269	25¢	.67
Marie.....	418	25¢	1.05
Mabel.....	537	25¢	1.34
Beauty.....	325	25¢	.81
Maud.....	386	25¢	.97
Stella.....	406	25¢	1.02



11 September, 1915.

WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

## Scottsbluff (continued)

Under date of September 4, Mr. Holden submits the following statement of the results of the second lot of hogs on alfalfa pasture experiment for the first 60 days, together with a table of gains made by the hogs during the same period of 1914.

Results of the first 60 days of the second lot of hogs on alfalfa pasture with varying amount of grain. Hogs at \$7.00, corn at 60 cents per bushel and ground barley at \$1.00 per cwt.

	Lot 1	Lot 2	Lot 5	Rot. 65	Lot 4	Lot 3
	No	1%	2%	2%	2%	3%
Grain ration.....	Grain	Corn	Corn	Corn	Barley	Corn
Gains made, 1915.....	75	186	333	344	326	498
Gains made, 1914 .....	101	237	---	403	402	524
Grain fed.....		4.4	11.2	10.8	600	20.
Cost of grain.....		\$ 2.64	\$ 6.72	\$ 6.48	\$ 6.00	\$12.00
Value of gains @\$7....	\$ 5.25	\$13.02	\$23.31	\$24.08	\$22.82	\$34.86
Net returns per plat..	\$ 5.20	\$10.38	\$16.59	\$17.60	\$16.82	\$22.86
Net returns per acre..	\$20.80	\$41.52	\$66.36	\$70.40	\$67.28	\$91.44
Daily net returns per A	\$ 0.33	\$ 0.69	\$ 1.11	\$ 1.17	\$ 1.12	\$ 1.52

Net returns per acre of the different lots when hogs are valued at \$6, corn at 80 cent per bushel and barley at \$1.40 per cwt.	\$18.00	\$30.56	\$44.02	\$48.00	\$44.64	\$55.52
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As will be seen from the table, the gains are higher for 1914 than they are this year. This is due to the fact that the alfalfa has not made the growth this year that it made last year. There is not so much difference, however, in the net return, due to the fact that more grain was fed to the respective lots in 1914 than in 1915. That is, the plats carried more pounds of live weight in 1914, and therefore more grain was fed. For instance, in 1914, Rotation 65 had an initial weight of 589 pounds while in 1915 the initial weight was only 397 pounds. The hogs used this season were smaller and much better lot of pigs than were used in 1914.

Hogs have been taken from each of the plats because of shortage of pasture. At present there are 4 hogs on Lot 1, 5 on Lot 2, 6 on Rot. 65, 6 on Lot 4 and 9 on Lot 3.



11 September, 1915.

## DEMONSTRATIONS ON RECLAMATION PROJECTS.

## FIELD NOTES.

## Truckee-Carson.

During the week ending August 21, there were 36 calls for assistance received and fifteen farms were visited. On Sunday, August 15, a trip was made to Reno, Nevada, to consult with the Veterinary Department of the University of Nevada about matters pertaining to my work here. I returned the following day.

As is usual at this time of the year the fly pest has commanded considerable attention from the dairymen here. During the past week a large number of inquiries have reached the office concerning the advisability of using fly repellent. To meet these inquiries some cooperative tests were made of the following formula, which was recommended by the Government, with variations made by me to suit the materials at hand. Formula - one quart of pine tar mixed with one-half pint denatured alcohol, one ounce of crude carbolic acid, one quart of fish oil, one half gallon kerosine.

This mixture was used very satisfactory with the finest of spray. When animals were treated to a very light spray of this mixture one gallon being sufficient for one application on 20 cows, it was found by experience that the flies were repelled from treated cows very satisfactorily for four days. The interior of sheds where flies were in the habit of collecting was sprayed with the mixture with very satisfactory results. Whenever the flies were touched with this spray they were almost instantly killed. Sufficient successive trials have not been made on the same animals to determine if there is any detrimental effect from it's use.

During the week ending August 28, 28 calls for assistance were received and fourteen farms were visited. During the week two days, Friday and Saturday were spent away from the project. During this time I accompanied a prospective dairyman from here to the vicinity of Wells, Nevada, for the purpose of buying a foundation herd of dairy animals. As a result of this trip thirteen grade Jerseys and Guernsey cows and four heifers of same breeding were imported into the project. These animals were all young and near calving except three which had recently calved. They showed good dairy quality and were in good condition. The average price was \$81.00 laid down in Fallon. During the past week considerable time has been spent testing milk. One hundred and thirty-six samples were tested for butterfat.



11 September, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

Shoshone.

During the week ending August 28, eleven farms were visited, fourteen men called for assistance, one letter was written, skim milk was tested for one man, four cows were tested for one man.

A hog crate was made for use in weighing for cooperators. It is four feet six inches long, two feet three inches wide and two feet nine inches high in the clear. The top, bottom sides and ends are easily taken apart. All boards are 1" by 4" with three inch spaces between except the bottom which is solid. The weight is 102 pounds, cost \$6.25.

One man was given a plan for the construction of a milk house. This man is the only man on the Project who peddles milk in town. He has been bottling the milk and washing the bottles in the kitchen, but since the state inspector has objected to this, he has decided to construct a milk house. The plan agreed upon provides for a milk cooler, table for bottling milk, window rack for sunning cans and buckets, bottle rack, wash tanks, heater, separator and ice box.

One man who had filled, partly, his silo with barley, in which there was volunteer alfalfa, finished filling with Canada field peas and oats mixed.

Mixed pastures were discussed with nine men. There is a growing interest here in mixed grasses for cow pasture and the men approached, talked favorably for the most part. Pictures taken of pastures on the Huntley Project received careful attention by all, and aroused enthusiasm in some.

With the Secretary of the Farmers' Institute, a tentative program was arranged for a three day institute in February, this winter. The first morning will be given to dairying the first afternoon to crops and soils, the second morning to hogs, the second afternoon to beef cattle and sheep and the third morning to judging dairy and beef cattle, and the third afternoon to judging hogs, horses and sheep. A popular lecture will be given each night.

Home economics demonstrations will be provided each day for the ladies. All agricultural lectures and demonstrations will be given by men from the State Agricultural College.



11 September, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

## Shoshone (continued)

A. A. Hancock feeds his cows on alfalfa hay alone and his returns for \$1.00 expended for feed were as follows:

Name	Breed	Age	Date Fresh	Mar.	Apr.	May	June	July
Star	Shorthorn	5 yrs	4/22/15		.81	3.75	3.75	2.96
Roanie	"	10 yrs	9/25/14	3.06	2.93	3.05	2.59	2.38
Spot	Holstein	3 yrs	12/4/14	2.32	2.25	2.32	2.03	1.99
Rosie	Shorthorn	4 yrs	10/9/14	2.46	2.47	2.40	2.37	1.55

## Huntley

During the week ending August 28, milk testing for the month was finished, about a hundred cows are now under test. A pig feeding demonstration which was planned with Mr. Graham a month ago and had to be postponed for various reasons, was got under way on Sunday of this week. In this work, records will be kept on seven pure bred Poland China pigs which now average 109 pounds in weight and on ten pure bred Duroc Jersey pigs, which average 57 pounds in weight. The Poland China pigs were farrowed April 8, 1915, and the Duroc Jersey pigs were farrowed May 23, 1915, according to Mr. Graham's records. The Poland China pigs since weaning, on June 1st to August 1st had received 714 pounds of corn, valued at \$1.85 per cwt. From August 1st to August 19th, they received 180 pounds of a mixture of 1/2 corn and 1/2 shorts. Corn at \$1.85 per cwt. and shorts at \$1.50 per cwt. They are now receiving 2 pounds of wheat each, per day. The Duroc Jersey pigs, since weaning, on July 1st to August 1st, received 310 pounds of corn at \$1.85 per cwt. and 700 pounds of skim milk. From August 1st to August 19th, they received 190 pounds of the corn and shorts mixture and 180 pounds of skim milk. On August 19th, the grain fed was changed to wheat and they are now receiving 1.6 pounds of wheat each, per day and two pounds of milk each, per day. Both lots are running on alfalfa pasture. It is planned to keep a detailed record on these pigs until they attain a good marketable weight.

Fourteen swine herds were inspected during the week, two cases of cholera and three cases of rheumatism were found. A mixture of Nox Vomica and Saltpeter was prescribed by Dr. Smith for the rheumatic hogs. No report has yet been received, regarding the effec-



11 September, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

## Huntley (continued)

tiveness of the treatment. Serum was ordered and the herds infected with cholera will be vaccinated as soon as it arrives.

## Minidoka.

Of 21 farm visits made during the week ending August 28, 11 were in connection with the hog cholera control work. Travel was performed in the B. A. I. automobile which practically doubles the amount of work that can be done. On this week farms in all parts of the Project were visited, 630 head of hogs were vaccinated and one entire day was spent in the office. Ordinarily from one-third to one-half of the time in the field must be spent on the roads.

The cholera situation on the Project does not improve. The first re-occurrence of the disease appeared this week on the farm of Arthur Muir where cholera has been found in January. A case of cholera was found in the Marshfield District which has been free since March and in the Pioneer District where the only previous case appeared in April. Five herds were vaccinated. The smallest had 46 head and the largest 282. All cases but one were of the chronic type.

Much of the third cutting of alfalfa is in the stack. The yield is from 1-1/4 to 2 tons to the acre. As the weather is still very warm there are very good prospects for a fourth crop. Usually only three crops are secured. Naturally this will take more water than has been expected but there is sufficient stored water to supply the demand. Mr. W. O. Cotton, Deputy State Engineer, states that this is the only irrigated tract in the State that has plenty of water this year.

## Tieton.

Two days of the week ending August 28 were given to milk testing, one call relative to hog cholera was answered and cholera found by post mortem, one farm survey was made and two dairy herds added to the testing list.



11 September, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

## Tieton (continued)

Mr. Farrell spent the last two and one-half days of the week on the project. One of these was given to securing information in regard to the Cowichee Cattle Company which is reported below. Another was spent among farmers in the Cottonwood Canon who wish to organize into a cooperative association for the purpose of securing better credit in buying cows and for community work in marketing their produce. Suitable forms of agreement for their purpose were made out and will be presented in a community meeting next week.

These Cottonwood Canon farmers are weighing their milk either continuously or for one week each month. They take composite samples of two consecutive milkings each month and tests are made of the same. The testing is usually done at one or two farms where other farmers bring their samples. An attempt is made to direct the discussion at any of these gatherings to one or two pertinent topics. The average return per cow for the month of July was \$8.28, not excluding the cost of feed. The highest individual returned \$12.24 and the lowest return was \$3.39. Most of these cows have some pasture, all have alfalfa hay. The Holstein breed is most popular and Holsteins are most numerous. In securing the above figures butterfat was sold at an average of 25.7 cents for the month and skim milk was valued at 25 cents per hundred pounds.

The Cowichee Cattle Company was organized in the Cowichee Valley about eight years ago for cooperation in grazing cattle in the Rainier National Forest Reserve. It is governed by a board of three members elected annually. One member of this board performs the duties of manager, secretary and treasurer of the company.

This company is a member of the Union Cattle Club which was organized at the request of the Forest Service to represent the cattle grazing interests of Yakima county, of which Cowichee Valley is a small part.

There are about 20 members of the Cowichee Cattle Company this year and they are grazing about 1000 cattle. The individual herds range from 10 to 100 head. Grazing begins in the foot hills about April 1st and the herd gets onto the reserve about June 1. Beef is brought off about September 1, but the stock cattle remain until October.



11 September, 1915.

## DEMONSTRATIONS ON RECLAMATION PROJECTS.

Field Notes.

## Tieton (continued)

The grazing fee for 1915 is 35 cents per head, A herder costs about \$65. per month and board. The company maintains a roundup pasture of 160 acres for which it pays the government an annual rental of 10 cents per acre and for which fencing costs about \$35. per year. The usual allowance of salt is seven pounds per head per season and salt costs about \$30. per ton delivered on the range. The total cost per head this season will be between one and one and one-half dollars.

Collections are made periodically and installments in advance. The first installment, at the beginning of the season, is about 30 cents per head.

Losses have been due to blackleg, poisoning and theft. Most of the poisoning is by plants in the early pasture. The losses have been as high as six to ten per cent in individual herds but no figures are available for the total percentage of loss. There is no insurance feature in this company and no bull regulation.

Thirty-four hogs in two herds were vaccinated for cholera on August 29. One herd of 13, in which cholera had previously killed three, had temperatures ranging from 103.4 to 106.6 degrees. The other herd is composed partly of pure bred Hampshires and was vaccinated only as a safe guard. The single treatment only was used and serum at 2-1/4 cents was bought of the Portland Serum Company. This same company sells "tail bled" serum at 1-1/2 cents but the veterinarian who ordered the serum and helped with the vaccination preferred to use the 2-1/2 cent "direct bleeding" grade.

Mr. Lewis, whose pigs were weighed this week for a "hogging off" Canadian field pea demonstration, had a sick sow and was suspicious of cholera. However, since the outbreak and only appearance of the disease was about 15 miles from Mr. Lewis, it was not considered necessary to kill the sow. She had no fever and was constipated, hence her trouble may have been due to an overdose of green corn.

The boys of the "Marks" School District, which includes one school off the project and two on the Tieton, met for their first lesson in the animal husbandry course at the Marks Dairy Farm. With the help of Mr. Marks the boys were given some introductory work in analysing the dairy form of the pure bred Holsteins on this farm. The interest was very marked and the Superintendent of the district is planning to hold meetings for the next few months at least.



11 September, 1915.

## DEMONSTRATIONS ON RECLAMATION PROJECTS.

Field Notes.

## Tieton (continued)

At a meeting of the farmers in the Cottonwood District the evening of September 4th it was voted to begin the formation of a voluntary association for cooperation to better the live stock industry of the community. No definite steps were taken other than a favorable consideration of plans of agreement which were presented and the appointment of a committee to take the proposition up with each man individually rather than at a general meeting. The problem of disposing of cream or milk will undoubtedly be the first one undertaken should the association be formed.

State Dairy Commissioner Fish called at the office on Friday and talked very disparagingly of the quality of Washington cream and butter. He is on a tour of inspection over the state and carries a supply of cheese color in his pocket with which to color the bad cream and render it unfit for use. The recent foreign demand for choice butter from the coast states has been filled entirely without Washington butter. The local creameries are also beginning to complain of difficulty in selling their output because it is not the choice quality which much of the trade demands. The Tieton cream is probably better than the average in the valley but it is not as good as it should be. A great many Tieton farmers would be glad to sell better cream, provided, the fellow who sells poor stuff did not receive the same price. It is hoped that the local creameries will yet reach an agreement whereby they can cooperate to improved conditions.

## Report for month of August, 1915.

A great deal of alfalfa hay has been hauled to market during the past month. Much of this is from land owned by non-residents, some is from young orchards, some is from farms not yet heavily enough stocked to consume the total yield, and the remainder from new farms which have no live stock either because the farm is not yet organized or because the owners do not want the added labor of caring for stock. Many Tieton farmers desire to raise fruit and nothing else. Pears and peaches have finished their season with much better results than was at first anticipated, and the fruit men who watch the prices very carefully are trying to be optimistic.



11 September, 1915.

## DEMONSTRATIONS ON RECLAMATION PROJECTS.

Field Notes.

## Tieton (continued)

The popular tendency over the project is more and more in favor of live stock. Those who have raised small grain and corn this year are quite generally beginning to feed the pigs that have been raised solely on alfalfa pasture. A few are storing what grain they can afford to hold for the pigs they hope to have next season.

The greater part of the past month has been given to cow testing and the work incident to keeping records and distributing the information thereof. Some of the herds under test are attracting considerable attention in their neighborhoods. It is usually quite easy to interest a few farmers in a community where one or two have kept records of their herds for a month or longer. One problem will be to keep the number of herds under test small enough to allow time for other necessary work.

Plans for the month of September are much like those followed during August, i.e., giving the greater attention to cow testing, the necessary time to collecting data on pig demonstrations already planned and in controlling cholera should other outbreaks occur, following up the work just began with the boys' animal husbandry class and attempting to help better the cream marketing situation. Miscellaneous calls are not invited and fortunately have not been numerous. Some attention will be given to studying communities in which work is being done with a view to promoting community activity whenever an opportunity is presented.



13 September, 1915.

## WESTERN IRRIGATION AGRICULTURE.

## FIELD NOTES.

## Umatilla.

During the week ending August 14, the maximum temperature was 98, and minimum temperature 50.

The regular work of irrigating and conducting lysimeter and soil moisture observations was continued.

The third crop of alfalfa was harvested from the irrigation plats on the Holman place.

Some observations are being made to determine the character of root development of alfalfa on different types of soil.

During the week ending August 21, the maximum temperature was 95, and minimum temperature 53.

The regular routine work of the various experiments was continued without interruption. One-half the corn in the variety test was cut to determine its weight for ensilage. The clover on field A4, Fertilizer experiment No. 3, was cut. Field Bla was graded and made ready to seed alfalfa. The land in this field was so prepared as to make a determination of the duty of water when applied on lands of varying length. Three strips 100 ft., 175 ft., and 250 ft. long respectively by 20 ft. in width were enclosed by low banks for this purpose.

Mr. L. M. Rockwood of the Bureau of Entomology visited the Farm.

## Lysimeter results after irrigation of July 31

Lysimeter Number	Inches Applied	Grams Applied	P.P.M. Salts in Irrigation water	Grams Percolate	P.P.M. Salts in Percolate	Percent of water Recovered
1	1.5	38529	90	38536	206	100.0
2	1.5	38529	90	19397	200	50.3
3	1.5	38529	90	6984	267	18.1
4	1.5	38529	90	3006	463	7.75

## After irrigation of August 5.

1	1.5	38529	214*	32498	200	84.3
2	1.5	38529	214	18497	212	48.0
3	1.5	38529	214	11677	269	33.0
4	1.5	38529	214	11771	363	30.5

## August 11.

1	1.5	38529	91	29936	210	77.6
2	1.5	38529	91	15329	213	39.7
3	1.5	38529	91	9586	277	24.8
4	1.5	38529	91	8701	377	22.5

\*Well water was used for the irrigation of August 5.



18 September, 1915.

WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

## Umatilla (continued)

It will be noticed that in the period after the irrigation of July 31 as much water was recovered from No. 1 as had been applied. A rain of .48 inch was probably the cause of this increase although there was no appreciable increase in the flow from the other lysimeters.

During the periods after August 5 and 11 lysimeters 3 and 4 show a considerably increased flow over the previous 1.5 inch applications. This might be accounted for by the rain of July 29 being slow in coming through or by the fact that the alfalfa was clipped on July 31 so the plats were probably not requiring as much water as previously

Weights of alfalfa in grams cut from lysimeters  
 3 and 4 on July 31.

	<u>Lysimeter 3</u>	<u>Lysimeter 4</u>
Green weight.....	417	514
Dry weight.....	129	163

Lysimeter 4 had 23.3% more hay than lysimeter 3 as a result of the manure being applied at the rate of 32 tons and 8 tons per acre respectively.

## Belle Fourche.

During the week ending September 11, the maximum temperature was 80, minimum temperature 35, and precipitation .23 inch.

Threshing in the dry land rotations is completed. Average yields: Wheat, 56 bushels, oats, 125 bushels, barley, 72 bushels, per acre. The alfalfa seed crop was a total failure and had to be cut for hay. All plowing in the dry land rotations is completed.

The following is a report of the pasturing experiment in field K, grasses planted in the spring of 1913:

The A and B mixtures furnished 21 days pasture each for one cow. The C mixture was cut for hay June 20, and yielded at the rate of 1.50 tons per acre and since that time has given 29 days pasture for one cow, weight 1100 pounds. No detrimental effect



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WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

## Belle Fourche (continued)

was noticed from pasturing on the C mixture containing the alfalfa. The pasturing was commenced June 10 and continued 86 days. During this time the cow was taken out for 15 days making the total days pasturing 71. The hay cut from the C mixture would more than keep the cow for that period. The cow was dry when first turned on pasture, coming fresh on the 19th of June.

The following is a record of milk and butter fat from June 22 to September 1:

Month	Pounds of milk	Test	Pounds Butter fat	Price per pound	Total
June	331	3.5	11.6	\$ .20	\$ 2.32
July	1226	3.5	42.9	.20	8.58
August	1125	4.0	45.0	.21	9.45
Total .....					\$20.35

To September 1, there is a total net return of \$20.35 from the three quarter-acre plats.

The grasses seeded this spring, good stands were obtained except the blue grass and slender wheat. The south half, seeded to brome grass, western wheat grass, and alfalfa is fenced and will be used for fall pasture.

The 10 lambs pastured on alfalfa in A-II-1-6, for a period of nine days, gained 30 lbs. The low gain is probably due to the fact that the lambs were just weaned and off the range, were restless and did not seem to want to eat much. There was wide variation in the gains made by the individual lambs. Three made no gains, one making a gain of 8 pounds for the 9 days. So far there has been no trouble from scouring or bloat.



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WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

## Belle Fourche (continued)

The following table shows the gains made by the spring pigs on alfalfa pasture since July 7, when they were turned on the plats:

Dates	No.	No.	Weights		Gain		Pounds	Net	
	of	of	Initial	Final		%			Per Day
	Days	Hogs	lbs.	lbs.	Total	Daily	Per Hog	Fed	Per A.
Rotation - 65									
7/7-7/19	12	10	363.5	403.0	39.5	.86	0.32	87.2	\$ 7.56
7/19-7/29	10	10	403.0	452.5	49.5	1.14	0.49	80.6	10.64
7/29-8/7	9	10	452.5	474.0	21.5	.51	0.23	81.4	2.76
8/7-8/17	10	7	335.0	391.0	56.0	1.55	0.80	67.0	13.00
8/17-8/27	10	7	391.0	429.0	38.0	.93	0.54	78.2	7.52
Totals...	51				204.5			394.4	\$41.48
Rotation - 69									
7/7-7/19	12	10	384.5	421.0	36.5	.75	0.30	92.2	\$ 6.52
7/19-7/29	10	10	421.0	469.0	48.0	1.08	0.48	84.2	10.08
7/29-8/7	9	10	469.0	489.5	20.5	.47	0.22	84.4	2.36
8/7-8/17	10	7	358.0	396.0	38.0	1.01	0.54	71.6	7.80
8/17-8/27	10	7	396.0	442.0	46.0	1.10	0.65	79.2	9.72
Totals...	51				189.0			411.6	\$36.48

The fall pigs gave total, net returns of \$39.88 per acre on rotation 65 and 47.40 on rotation 69. Adding to these totals the net returns, to date, made by the spring pigs we get a total net return per acre of \$81.36 on rotation 65 and \$83.88 on rotation 69.

The net returns per are is calculated on the basis of corn at \$1.00 per hundred pound and pork at \$7.00 per hundred pounds.



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## WESTERN IRRIGATION AGRICULTURE.

Field Notes.

## Belle Fourche (continued)

The table below shows the gains made by the hogs in the alfalfa pasturing experiment with the hogs fed a ration of two pounds of shorts per hundred pounds of live weight as compared to a ration of two pounds of corn per hundred pound of live weight.

The net returns per acre is calculated on the basis of corn at \$1.80, shorts at \$1.60, and pork at \$6.50 per hundred pounds. These are market prices on the project at the present time.

Dates	No. of Days	No. of Hogs	Weights		Gain			Pounds Corn Fed	Net Return Per A.
			Initial lbs.	Final lbs.	Total	% Daily	Per Day Per Hog		
<u>Corn Lot</u>									
8/11-8/17	6	7	337.0	357.0	20.0	.96	0.47	40.4	\$ 2.32
8/17-8/27	10	7	357.0	412.0	55.0	1.44	0.78	71.4	9.16
Totals...	16				75.0			111.8	\$11.48
-----									
<u>Shorts Lot</u>									
8/11-8/17	6	7	341.0	356.0	15.0	.72	0.35	40.9	\$ .96
8/17-8/27	10	7	356.0	396.0	40.0	1.02	0.56	71.2	5.28
Totals...	16				55.0			112.1	\$ 6.24

\*Shorts fed.

The above table shows a difference of \$5.24 in favor of the corn fed lot.

## Huntley.

During the week ending September 4, the maximum temperature was 97, minimum temperature 43, and precipitation .07 inch.

Work during the week consisted of preparing land and planting winter wheat in dry land rotations, plowing field M-II (Worden), and weeding. Threshing of oats in field L was begun.

Mr. Rawl and Mr. Dorman of the Dairy Division, Bureau of Animal Industry, visited the Station, September 2nd.

All alfalfa plats in field K irrigated. First year alfalfa for the third time, and second and third year alfalfa for the fifth time. All beet plats irrigated for second time.



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WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

Huntley (continued)

Hogs in feed lot and spring pigs on alfalfa pasture, rotation 67, made the following gains:

Hogs on Feed Lot, 3.5% corn ration.

Lot	Days	No. of Hogs	Initial Weight	Gain	% Gain Daily	Total Gain Per day lbs.	Grain Fed	Profit
*1	4	1	290	4	.20	1.0	40.60	-\$ .011
*1	7	1	292	16	.70	2.28	71.54	+ .405
1	10	1	284	24	.77	2.40	99.40	+ .686
*1	11	1	297	15	.47	1.36	114.34	- .09

\*Sold.

Spring pigs on alfalfa pastures, 2% corn ration.

Lot	Days	No. of Hogs	Initial Weight	Gain	% Gain Daily	Total Gain Per day lbs.	Daily returns per acre
1	10	8	461	52	1.05	5.2	\$ 1.08
1	10	8	513	46	.77	4.6	.88

San Antonio.

The maximum temperature for the week ending September 11, was 96, minimum temperature 71, and greatest daily range, 22. There was no precipitation and for the most part the weather was warm, the maximum temperature being above 90 every day.

Plowing of corn stubble in the rotation experiment was completed, the plowing of plat A6-17 being finished and plat B6-3 plowed and subsoiled. Plowing of field D3 was also completed. Those plats on which oats were grown this season were disked, in order to kill the volunteer oats which had started growth since the rain. Weeding of the rotation plats was completed. The second cutting of Sudan grass on plats A6-17 and B4-15 was made.

Sorghum and Johnson grass on the farm are making good growth and promise a reasonably heavy cutting of forage.

During the week a large number of people visisted the station, among them being Dr. F.H.Blodgett and Prof. G.M.Garren of College Station, Texas, and M.T.Payne and W.G.Hand of the Farmers' cooperative Demonstration work. Judge J.O.Terrell, of San Antonio and Mr. Ed.CLasater of Falfurias, Texas, both of national prominence in the Jersey cattle business, also were visitors.



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## DEMONSTRATIONS ON RECLAMATION PROJECTS.

## FIELD NOTES.

## Shoshone.

During the week ending September 4, eighteen farms were visited, four men called at the office, twenty-one cows were tested for four men, and four letters were written.

During this week much attention was given to the planning for the annual fair for the project. As the project is so far from the County Seat, an annual fair is held on the project instead of assisting in the county fair. As there are no fair grounds the fair is of the nature of a street fair. There has never been much success in getting stock entered in the rings, and this year it is planned to have simple demonstrations besides the regular show rings.

Mixed grass pastures were discussed with five men, four of whom promised definitely to sow next spring and the other said he thought he would surely try spring after next, and possibly next spring. The four men together, expect to sow twenty acres of mixed grass.

The five men who are feeding alfalfa silage are still pleased with it. One man who has just built a new silo filled it with volunteer grain which had come up in a poor stand of alfalfa. He has not begun to feed it yet, but it looks good.

One man who had filled his silo partly with grain and alfalfa mixed, completed filling with peas and oats, and has quit feeding until cool weather, as there is so much loss in feeding during the warm weather.

One man who is feeding green corn to his cows, says that it gives good results.

Sweet clover pastures were discussed with four men. All have been pasturing sweet clover all summer, and three of them have pastured it previous summers. One man who has been pasturing it all summer, recently had his cows bloat; one of them died and one of them had to be stuck to save her. He has taken his cows off the sweet clover. The other man is still pasturing and is having no trouble with bloat now, but had trouble all summer when the sweet clover was damp.

Four men visited have begun feeding beets to the cows this fall and report excellent results.



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## DEMONSTRATIONS ON RECLAMATION PROJECTS.

Field Notes.

## Shoshone (continued)

One man who has been pasturing his cows for four years on alfalfa without bloat and who thought he had a preventative, in a mixture of lime and salt, feeding it regularly to his cows, lost one cow from bloat and several others bloated badly, so he has decided that alfalfa pasture for cows is not to be depended on.

Two men visited have begun to feed beets to hogs. Both reported that their experience with beets for hogs has been that they are not especially good feed in the fall because they tend to purge the hogs but one man reports that last year he fed beets in February with very good results.

One man visited reports that he expects to sell all of his hogs except two sows for stockers this fall. A great many men expect to sell stockers into the corn feeding sections, but there is some fear that there may not be a very good market for stockers this fall.

Five men visited have begun feeding grain in the bundle to their hogs.

Six boys in the boys' pig club have finished the feed-period and intend to show at the local fair.

One man expresses desire to have experimental seed wheat and two desire experimental seed oats, furnished by the Huntley Experiment Farm.

Mr. G. W. Atkins fed alfalfa hay alone the first half of July and during the last half fed alfalfa and alfalfa silage. His returns for \$1.00 expended for feed were as follows:

<u>Name</u>	<u>Breed</u>	<u>Age</u>	<u>Date Fresh</u>	<u>July</u>
Robber	Mixed	5 yrs.	12/14/14	1.88
Dolly	"	5 "	9/15/14	Dry
Pearl	Grade Guern.	3 "	3/1/15	2.04
Busy Bee	" "	2 "	1/1/15	1.79
Goldie	" "	2 "	4/9/15	2.00
Jesse	" "	2 "	4/2/15	2.00
White Face	Mixed	3 "	12/ /14	1.26
Wapiti	"	5 "	8/ /14	- - -
Fuzzy	"	5 "	8/ /14	- - -
Tiny	Grade Guern	3 yrs.	9/ /14	- - -
Sunbeam	" "	2 "	1/ /15	1.76
Chink	" "	2 "	4/11/15	1.34



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DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

## Shoshone (continued)

George Winstel feeds his cows alfalfa hay, all they want three times a day. The returns for \$1.00 expended for feed during July were as follows:

<u>Name</u>	<u>Breed</u>	<u>Age</u>	<u>Date Fresh</u>	<u>July</u>
Brindle	Poland Jersey	5 yrs.	11/ /14	2.20
Topsy	P. Bred Holstein	7 "	7/ /14	2.20
Mercides	Reg.	" 1909	12/14	4.15
Sherry	P. Bred	" May 1912	11/14	3.08

H. Hecht feeds his cows at night, all alfalfa hay they will clean up and range in the road on sweet clover and thistles, during the day. He estimates that they eat about ten pounds of hay per day. His returns for alfalfa for \$1.00 expended for feed during August, is as follows:

				<u>August</u>
Susie	Holstein	3-1/2 yrs.	7/25/15	12.28
Lotty		Oct. 1, 1912	4/24/15	8.78
Daisy	Holstein	Aug. 1912	12/7/14	7.25

R. Glenn fed alfalfa hay during August. The first half of the month they received first cutting and second half second cutting. Estimating that each cow ate 900 pounds during the month of August, returns for \$1.00 expended for feed were as follows:

Jersey	Jersey	Fall 1912	1/15/15	3.04
Flower	Gr. Holstein	July 1912	5/11/15	2.50
Buttercup	Jer. Red Poll	Oct. 1912		- --
Nude	Hol. Shorthorn			
	and Red Poll	May 28, 1912		2.49

E. L. Brown during July fed his cows with alfalfa hay, all they would clean up at night, estimated at 15 pounds per day, and they ran on outside range during the day. During August they were given all the alfalfa hay they would eat and clean up twice a day, estimated at 20 pounds per day; they ran on outside range during the day. His returns for \$1.00 expended for feed were as follows:

Mame	Gr. Shorthorn	1911	5/20/15	7.93	4.60
Craig	Shorthorn-Jersey	1911	11/ /14	3.64	- --
Zoe	Gr. Jersey	Sep 1913	3/15/15	5.13	3.96
June	" "	June 1913	3/ /15	5.42	3.76



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## DEMONSTRATIONS ON RECLAMATION PROJECTS.

Field Notes.

## Shoshone (continued)

The agricultural and economic developments and tendencies of the Project during the month of August:

The cooperative creamery is still unable to supply its demand for butter. During the month, 7100 pounds of butter were sold. The price paid for butter fat was 25¢ per pound during the first half of August and 23¢ per pound during the second half. The Centralizer at Billings has established an agency at Powell, but so far it has gotten very little of the business.

Corn which was sown for silage has been growing quite well during the month. Corn from seed obtained on irrigated land near the Project has not grown very high but has eared quite well. Many of the ears are now past the roasting stage. Corn from seed taken from the feeding corn shipped in, has eared very little but has made a very large growth.

During the month fifteen men have signified their intention to sow small mixed pastures next spring. All of them express the need of pasture for cows during the summer, and as sweet clover pastures have not proven very satisfactory, they are enthusiastic about mixed grass pastures.

The five men who are feeding alfalfa silage are well pleased with it, because the cows relish it much more than they do the first or second cutting hay.

The two men who have put up silage, of grain and alfalfa mixed have not yet begun to feed.

The second cutting of alfalfa as was the first cutting, has been very difficult to cure because of frequent showers. Much of it stayed in the cocks until the third crop had made quite a growth.

Many of the farmers have begun feeding a few beets to their cows. These beets are considered very good feed for cows during the warm weather while they are on first and second cutting hay. The tops and beets are usually chopped and fed together. The cows are especially fond of the beets.

I have heard of no abortion this month.

Practically all of the hogs on the Project are pastured on alfalfa. Many of these pastures are very short but the hogs as a whole, are looking very well. Many of the farmers have begun feeding grain in the bundle, and this appears to be giving very good results. Some of the men are feeding bran or shorts and shorts mixed, to some of the pigs which have not done well on alfalfa alone. Many of the men are feeding a few of the beets to their hogs.



18 September, 1915.

## DEMONSTRATIONS ON RECLAMATION PROJECTS.

Field Notes.

## Shoshone (continued)

One man has been using a small rape pasture near the barn to pasture his hogs while he is irrigating his alfalfa, and he reports very good results. A great many men are expecting to sell their hogs for stockers this year. But many are expecting to feed as they think the stocker market will not be good and that feeding grain will be cheap.

The alfalfa meal mill operated only a portion of the month, grinding and shipping 300 tons of meal.

The prices of the leading agricultural products of the local market, August 31, were as follows:

Alfalfa.....	\$6.50
Oats, per cwt.....	2.25
Wheat, per cwt.....	2.25
Barley, per cwt.....	1.50
Potatoes, per cwt.....	1.00

No stock of any kind was shipped from or into the project during the month.

General discussion of my own work during the month of August:  
The milk records are being kept as usual.

During the month a visit was made to the Huntley Experiment Farm and a study made of the pasture grasses. The work has been taken up to establish a number of demonstrations of mixed grasses for pastures, next spring. The farmers are much impressed with the results obtained on the Huntley Experiment Farm for mixed grass pastures, and if seed can be obtained at reasonable prices, there is no doubt that many farmers will sow small pastures next year.

A movement is being started to ship in cows from the East next fall. Four men have expressed favorable opinion and it is possible that at least one carload may be shipped in, although money is very scarce. One of the bankers has agreed to furnish one-half the money for buying cows, if the farmer will furnish the other half.

Plans are being made for a local fair on the Project the latter part of September. It is hoped to be able to get good agricultural demonstrations.

In the demonstration on feeding hogs on bundle grain started during the month, the hogs are doing well but no second weight has been taken.



18 September, 1915.

## DEMONSTRATIONS ON RECLAMATION PROJECTS.

Field Notes.

## Shoshone (continued)

Five other demonstrations have been planned for feeding hogs grain, and will be started as soon as new grain can be obtained.

Suggestions regarding plans for September:

During September cooperative and demonstration work will be carried on the following lines:

Milk records; cattle feeding; pasture grasses; sweet clover; sterility; abortion; improved males; care of calves; cow barn; hog feeding; hog pastures; hog shelter, and Boys' pig clubs.

## Huntley

Work during the week ending August 21, consisted of collecting and testing milk samples for the farmers who are keeping records of their herds.

The pigs being used in the demonstration work on Mr. Pickens place were taken off rye on August 19 and put on peas, August 19 being the end of the third ten day period on rye. The rye was not cleaned up, but it was thought best to transfer the pigs to the peas at this time and allow some older hogs to finish up the rye. 955 pounds of pork were produced on 1.8 acres of rye in 30 days. Some rye was still left on the ground at the end of this period. The pigs had the run of an alfalfa pasture during this period and were observed to fill up on alfalfa once a day, but since other stock were running on the pasture at the same time, it is impossible to tell how much they ate.

Mr. F. D. Farrell was a visitor to the Project on August 15th and 16th.

Don Magruder from the Shoshone Project spent Friday on the Project.

One hog cholera report was investigated during the week. This case could not be definitely diagnosed as cholera as no dead hogs were available for post-mortem, but the owner had his hogs vaccinated as a precaution. Dr. Cahagan, of Worden, did the work vaccinating 32 hogs on Friday, August 20.

The Huntley Project Pioneer Picnic was attended on Saturday, August 21. A large crowd was present and many new acquaintances were made.



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## DEMONSTRATIONS ON RECLAMATION PROJECTS.

Field Notes.

Huntley (continued)

During the week ending September 4, 18 farms were visited. Thirty-seven samples of milk were collected and tested. One man has discontinued keeping records on his cows, being satisfied with the records so far kept that none of them are profitable. It is also suspected, that this man's cows are affected with contagious abortion. He expects to dispose of his three cows to the butcher and buy others. There is one other herd of cattle, near the Project, where contagious abortion is suspected. The owner of this herd owns both dry and irrigated land and now has his cattle on the dry land, some three or four miles south of the Project, but contemplated wintering his cattle on the Project. He has agreed that he will not bring any of his she stuff down this winter.

There is not much change in the hog cholera situation, a case breaks out here and there occasionally, but has not been severe enough to cause much alarm. Mr. O.M. Bingaman who has lost two hogs that on post mortem showed positive signs of cholera had a change of heart after ordering serum to vaccinate the balance of his herd and canceled the order, saying that he would wait until more of the hogs got sick. His attitude is typical of that of most of the swine growers on the Project.

Mr. Rawl, Washington, D. C. and Mr. Dorman, Salt Lake City, Utah, were visitors to the project on September 2.

Another pig feeding demonstration was started with Mr. Pickens during the week. A bunch of seventeen hogs weighing 3950 pounds in all were turned into a field of unthinned beets to fatten. The field or the area grazed will be measured and records kept of the gains made. The beets in this field now average two to four inches in diameter.

Sixty-six pigs which were carried for eleven days on 1.9 acres of peas gained 810 pounds.

One herd of 30 hogs was treated for lice during the week.

During the week ending September 11, attention was given to a proposition proposed by B. H. Rawl, Chief of Dairy Division, in regard to establishing a small cheese factory under government supervision on a supply of milk as small as one thousand pounds per day. A pledge of a daily supply greater than this was easily obtained in one day from a few dairymen near Pompeys Pillar. The market conditions for Project dairy product is not very encouraging at this time. In fact there are some comparatively large dairymen on the project who say that they must drop the dairy business unless these conditions improve. On the other hand with favorable market



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DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

Huntley (continued)

conditions they promise to double their present herds. It is hoped that the cheese factory can be given a trial.

The following are the results obtained from the first two weeks feeding trial with Mr. Graham's pigs:

Date	No. of Pigs	Breed	Weight of Pigs	Gain	Gain per pig per day	Feed	
						Wheat	Milk
Aug. 22	10	Duroc-Jer.	572#	----	----	224#	280#
Sep. 5	10	" "	714	142#	1.0#		
Aug. 22	7	Poland C.	768			196	---
Sep. 5	7	" "	861	93	.94		

Wheat fed to the pigs is valued at 1-1/4 cents per pound. In addition each lot received alfalfa pasture at will and a small quantity of rape.

One case of hairless pigs. The first reported this year was reported by M. A. Franklin. One sow farrowed ten pigs, of this number nine were hairless and died from one to twenty-four hours after birth. In this case as in all others no cause can be assigned for the difficulty.

Milk testing for the first half of the month was finished this week.

Thirteen farm visits were made during the week.

A Ford runabout was received on September 9th and is now in commission.

During the month of August, twenty swine herds were inspected for cholera and in four instances post mortem showed the presence of cholera. The losses occurring from this cause so far are insignificant. Three of the infected herds were vaccinated, 206 hogs in all. Of these 45 were vaccinated by Dr. Gahagan a local veterinarian. There has been some difficulty with rheumatism. Three hogs were treated for this ailment and one herd of 30 was treated for lice during the month. A circular letter on hog lice destruction was issued August 15. One car load of hogs was shipped off the project to Billings at \$5.50 per cwt. Wheat is now being fed to hogs on the project to a considerable extent. There has been no importation of swine during the month.



18 September, 1915.

## DEMONSTRATIONS ON RECLAMATION PROJECTS.

Field Notes.

## Huntley (continued)

Two pig feeding demonstrations are now underway. The hogging off work with Mr. Pickens was incorrectly reported in the weekly report for week ending August 21. The hogs should have been given credit for 1025 pounds gain on 1.8 acre of rye during 30 days. The same pigs that had been hogging off rye were placed on 1.9 acre patch of peas when taken off the rye. They cleaned up the peas in eleven days and made a gain of 810 pounds during this period. From the peas the pigs were put on spring wheat and when they have finished the wheat they will be finished off on corn. Demonstration work with Mr. Graham after being suspended for some time, was again taken up on August 22. Records are being kept on two lots of pigs. One lot of seven fine bred Poland China pigs are receiving wheat, alfalfa pasture and a little rape. Another lot of ten fine bred Durcc Jersey pigs are receiving wheat, milk, alfalfa pasture and rape. A fairly close record of what these pigs have eaten since being weaned has been kept, and it will be possible to arrive at a very close estimation of the cost of their production from weaning time until a marketable weight is attained.

Eleven herds and 81 cows are now under test. One man with nine cows has dropped the work because it is too much work for him. Two others with three cows each have quit keeping records because they have decided to send their cows to the block and buy others that will pay for the feed. The total value of dairy produce sold from the project during the month of July is \$1,544.64. The figures for August will be about the same. Flies, mosquitoes and hot weather are big factors during August and July in keeping down milk yields. There was no importation of dairy stuff during the month.

## Scottsbluff.

Mr. Fritz Knorr reports the following for the month of August:

The crop conditions on the Project and the adjoining irrigated sections are much better this year than usual. The hail did considerable damage in various sections of the Project. There was only one hail, however, that took in any large area of the Project. The crops on some of these farms that were in the hail belt were almost entirely destroyed, except the beet crop, and this was retarded considerably. Observations were made and it was found that the beets did not make any growth until the tops had recovered to practically their original size. It was almost two weeks before full recovery was made.



18 September, 1915.

## DEMONSTRATIONS ON RECLAMATION PROJECTS.

Field Notes.

## Scottsbluff (continued)

The corn is very backward, at least three weeks later than it was last year at this time. We began to cut corn at the Experiment Station, September 1, 1914, but this year we will not be able to cut any corn for at least two or three weeks, unless frost takes the corn.

Although lambs are very high, the majority costing 8 cents laid down in this section with freight paid to the river, there will be a great deal of feeding done, even by beginners. To us it seems a rather haphazard undertaking to feed lambs at such a price when some of the farmers have had no experience whatever in feeding. The margin of profit will be very small.

So far very few people have made arrangements for purchasing cattle for feeding. Practically everybody that fed last year either lost money or broke even.

The following gives the number of calls during the month. We have had more general visitors this month than ever before, people merely coming in and looking around and are after no definite information.

Pigs.....	6	Sweet Clover.....	6
Pasture.....	4	Dairy.....	7
Small Fruit.....	4	Stock Poisoning.....	3
Seeding Rye for Pasture....	2	Insects in grain.....	2
Seeding alfalfa in fall....	3	Insects in garden.....	1
Corn.....	5	Potatoes.....	3
Winter wheat.....	3	Winter Emmer.....	1
Trees.....	4		

## PERSONAL.

Born, to Mr. and Mrs. Argyle McLachlan, at Victoria, Texas, September 9, 1915, a son.



25 September, 1915.

## WESTERN IRRIGATION AGRICULTURE.

## FIELD NOTES.

## Truckee-Carson.

During the week ending September 4, the maximum temperature was 100, minimum temperature 43, and precipitation .61 inch.

The pigs in the pasture experiment made very good gains during the week ending August 28, and poor gains during the week ending September 4. The net returns were \$1.53 for the former period and seven cents for the latter period. With one exception, the low gains have been made while the pigs were on the south half of the pasture. The difference in gain in favor of the north half of the pasture have apparently been too regular and consistent to be the result of coincidence, but there is no obvious difference in the growth of the alfalfa which would explain the difference in the gain. Following are the results for the 15th and 16th periods and the summary of all periods:

## Fifteenth Period, August 21 to August 28

	Durocs	Berkshires	Total
Number of hogs .....	5	5	10
Initial weight, pounds.....	423.	322.5	755.5
Final weight, pounds.....	459.	341.	800.
Total gain, pounds.....	36.	18.5	44.5
Daily gain, pounds.....	3.7	2.6	6.4
Daily gain per acre, pounds.....	29.7	21.1	25.4
Daily gain, percent.....	.84	.80	.82
Barley fed, pounds.....	60.6	45.2	105.8
Cost of barley @ 1-1/2¢ .....	.91	.68	1.59
Value of gain @ 7¢.....	1.82	1.30	3.12
Net return.....	.91	.62	1.53
Daily net return per acre.....	1.04	.71	.88



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WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

## Truckee-Carson (continued)

Sixteenth Period, August 29 to September 4.

	Durocs	Berkshires	Total
Number of hogs .....	5	5	10
Initial weight, pounds.....	459.	341.	800
Final weight, pounds.....	475.	350.	825
Total gain, pounds.....	16.	9.	25
Daily gain, pounds.....	2.3	1.3	3.6
Daily gain per acre, pounds.....	18.3	10.3	14.3
Daily gain, percent.....	.49	.37	.44
Barley fed, pounds.....	64.3	47.7	112.0
Cost of barley @ 1-1/2¢.....	.96	.72	1.68
Value of gain @ 7¢.....	1.12	.63	1.75
Net return.....	.16	-.09	.07
Daily net return per acre.....	.18	-.10	.08

Average, all Periods, May 16 to September 4. (111) Days

	Durocs	Berkshires	Total
Number of hogs.....	5	5	10
Initial weight, pounds.....	224.	166.	390.
Final weight, pounds.....	475.	350.	825.
Total gain, pounds.....	251.	184.	435.
Daily gain, pounds.....	2.3	1.7	3.9
Daily gain per acre, pounds.....	18.1	13.3	15.7
Daily gain, percent.....	.68	.67	.68
Barley fed, pounds.....	721.5	540.8	1262.3
Cost of barley @ 1-1/2¢.....	10.82	8.11	13.93
Value of gain @ 7¢.....	17.57	12.88	30.45
Net return.....	6.75	4.77	11.52
Daily net return per acre.....	.49	.34	.42

Yuma.

For the week ending September 4, the maximum temperature was 102, minimum 66 and greatest daily range 34. Precipitation .57 inch.



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WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

## Yuma (continued)

A late planting of hemp was made on E-2. Volunteer sorghum plats, A-1 and 2 were harvested and stalks removed. Alfalfa was harvested from A-15-6-7; C-21-22, D-16-17-18-23 and millet from A-5.

The farm buildings are being painted. A shade for the work stock was built on the corral.

Weeds on B-series fallow plats were mowed. The pecan, deciduous and fig orchards were cultivated and hoed. The ornamental plantings on station ground were manured.

Among those visiting the station this week were Messrs. D. B. Rothgeb, C. W. Collins and J. H. Kempton.

During the week ending September 11 the maximum temperature was 101; minimum 58; greatest daily range 42.

All nursery and small plats irrigated the first part of the week were cultivated, also A-23, corn; B-27-28, cotton, and eight acres of grain sorghum.

Two rows of pomegranates were given the second spraying of Bordeaux. Alfalfa plats E-6-7-8; D-22-26 and Roads were harvested. The painting of farm buildings is in progress.

Mr. H. N. Vinall, of the Office of Forage Crop Investigations, visited the station on the 8th and 9th.

## Huntley.

The weather has been rather cold with frequent showers during the week.

Plat Variation in Field L.

Threshing of all grains was completed. The following tables give the yield of oats in Field L-III and L-IV. These plats were all treated uniformly during the season, and were harvested separately in order that determinations may be made of plat variation. The extreme variation in each series is shown in the last line in each table. The plats are 1/4-acre in area.



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WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

Huntley (continued)

Field L-III			
Plat No.	Lbs. Per Plat		Bushels Per Acre
	Straw	Grain	
LIII-1	909	731	91.4
-2	995	655	81.9
-3	837	623	35.2
-4	708	642	80.2
-5	848	678	34.3
-6	471	622	78.6
-7	812	624	78.0
-8	709	625	78.1
-9	702	608	76.0
-10	491	625	78.1
-11	503	637	79.6
-12	769	631	78.8
-13	722	612	76.5
-14	413	597	74.6
-15	583	537	67.1
-16	582	648	81.0
-17	769	581	72.6
-18	695	605	75.6
-19	637	663	32.3
-20	652	643	31.0
-21	672	653	31.5
-22	648	622	77.7
-23	640	620	77.5
-24	579	571	71.4
<hr/>			
Average	635	630	78.7
Minimum	443	537	67.1
Maximum	995	731	91.4
Range	552	194	24.3

Field L-IV			
LIV-1	676	664	83.0
-2	685	655	81.9
-3	654	656	82.0
-4	708	692	86.5



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WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

Huntley (continued)

Field L-IV (con't)			
Plat No.	Lbs. Per Plat		Bushels Per Acre
	Straw	Grain	
L-IV-5	662	648	81.0
-6	673	647	80.9
-7	637	603	75.3
-8	650	620	77.5
-9	541	619	77.3
-10	710	640	80.0
-11	632	618	77.2
-12	663	637	83.3
-13	602	622	78.5
-14	667	633	79.1
-15	640	620	77.5
-16	687	672	84.1
-17	660	700	87.5
-18	670	650	81.2
-19	722	712	89.7
-20	710	680	85.0
-21	722	682	86.0
-22	715	665	83.1
-23	716	654	81.7
-24	677	633	79.1
-25	688	642	80.2
-26	702	632	79.7
-27	635	625	78.1
-28	545	595	74.3
Average	655	649	81.1
Minimum	541	618	74.3
Maximum	722	712	89.7
Range	191	100	15.4

It is seen that the extreme variation was much greater in Field L-III than in Field L-IV.



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WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

Huntley (continued)

The yields of Wheat in Field L-I are stated below:

Plat No.	Lbs. Per Plat		Bushels Per Acre
	Straw	Grain	
L-I-1	788	582	38.8
-2	865	575	38.3
-3	1014	686	45.7
-4	1053	717	47.8
-5	988	732	48.8
-6	900	670	44.6
-7	852	618	41.2
-8	896	644	42.9
-9	815	549	36.6
-10	810	606	40.4
-11	703	537	35.8
-12	620	516	34.4
-13	795	499	33.2
-14	656	425	28.3
-15	528	408	37.2
-16	679	460	30.6
Average	810	577	38.4
Minimum	528	408	28.3
Maximum	1053	732	48.8
Range	525	324	20.5

All of Field L, excepting plats LI-1 to 7, inclusive, was broken up from native sod in September, 1914. Plats LI-1 to 7 were broken up in April, 1915. The land was prepared for seeding in the spring of 1915 by double disking, harrowing and leveling. Oats were irrigated once and wheat was given two irrigations. Variety of wheat was Pringle Champion and of oats, Swedish Select. Both wheat and oats were affected slightly by red rust.

Fertilizer Test.

A fertilizer test with oats, in which acid phosphate was used, was conducted in Field B-VII. This is the third year of the test on the same land with the same crop. Variety of oats was Swedish Select. The land was plowed in the fall of 1914 and was prepared for seeding by double disking, harrowing and leveling



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WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

Huntley (continued)

immediately before planting. The fertilizer was worked into the soil at the time of preparing the seed bed. The oats were irrigated once. All of the plats ripened uniformly and there was no apparent difference in the color of the growing crop. The plats were one-twentieth acre in size.

The following table, giving yields and other data relating to this test, shows that no significant differences resulted from the use of the fertilizer. These results agree with those secured in 1913 and 1914.

Plat No.	Rate of fertilizer per acre, pounds	Lbs. Per Plat		Bushels Per Acre
		Straw	Grain	
BVII-1	None	197	137	85.6
-5	"	124	116	72.5
-9	"	157	113	70.6
Average		159	122	76.2
BVII-2	300	181	129	80.6
-6	"	180	110	68.7
-10	"	134	106	66.2
Average		165	115	71.8
BVII-3	500	185	125	78.1
-7	"	135	105	65.6
-11	"	183	127	79.3
Average		168	119	74.3
BVII-4	700	197	123	76.9
-8	"	141	109	68.1
-12	"	165	115	71.8
Average		168	116	72.2
Average of all plats		164.9	117.9	73.6



WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

Huntley (continued)

Wheat Variety Test.

A variety test of 6 varieties of wheat in duplicate on one-twentieth-acre plats was conducted in Field C-III. This field was in wheat in 1914 and was fallow in 1913. Seed bed preparation consisted of plowing, in fall of 1914, and double disking, harrowing, and leveling immediately before planting.

The following table gives yields and other data regarding these varieties of wheat;

Plat No.	Variety	Lbs. Per Plat		Bushels Per Acre	% Lodging
		Straw	Grain		
CIII-1 -7	Pringle	310	170	56.6	80
	Champion	270	130	53.3	5
Average		290	165	54.9	
CIII-2 -8	Kubanka	230	144	48.0	90
	"	171	151	50.3	75
Average		200.5	147.5	49.1	
CIII-3 -9	Defiance	265	171	57.0	40
	"	245	165	55.0	5
Average		255	168	56.0	
CIII-4 -10	Marquis	308	180	60.0	30
	"	280	200	56.6	8
Average		294	190	63.3	
CIII-5 -11	Dicklow	247	113	37.6	50
	"	211	139	46.3	none
Average		229	126	41.9	
CIII-6 -12	Stanley	280	170	56.6	30
	"	182	118	39.3	3
Average		281	144	47.9	
*****					
Average for all var.		249.9	156.7	52.1	



25 September, 1915.

WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

## Huntley (continued)

The varieties, Dicklow and Stanley, both soft wheats, were the only ones affected by rust.

The sugar beet crop over this territory is unusually late in maturing. Tests of samples taken the first week of September from all of the fields on the project averaged only about 12% in sugar, while in former years the average of the first test has been about 15% to 16%. For this reason, the harvest will probably not begin until about September 30th or 25th. Mr. J. P. Mead, the sugar company's local field man, estimates that the yield will be somewhat less than in 1914.

All the oats and wheat plats in Field K were threshed. The following table shows the preceding crop and average yield of oats from each sequence for 1915 and a comparison with same average for 1914:

Preceding Crop	No. of Plats	Field-1915		Average	Average 1914
		Highest	Lowest		
Potatoes.....	1			73.3	115.00
Beets.....	1			79.2	109.50
Potatoes.....	6	103.7	75.8	87.4	100.12
Beets (man)....	1			96.2	93.75
Alfalfa .....	1			73.3	83.75
Potatoes (rye).	1			83.7	82.62
Corn.....	2	85.5	75.5	80.5	76.87
Wheat.....	1			50.5	62.50
Oats.....	1			43.1	45.75

Spring pigs on alfalfa pasture and 2% corn ration, rotation 67, made the following gains:

Lot	No. Days	No. Hogs	Initial Weight	Gain Pounds	% Daily Gain	Total Gain Per Day, Lbs.	Daily Return Per Acre
1	11	8	559	26	.37	2.4	\$ 0.22



25 September, 1915.

## WESTERN IRRIGATION AGRICULTURE.

Field Notes.

## San Antonio.

The maximum temperature for the week ending September 18, was 95, minimum temperature 72, and greatest daily range 19. Light showers occurred on several days. The total precipitation, however, was only 1.03 inches. The frequency of the showers interfered considerably with cotton picking and field work in general.

The second picking of cotton on the rotation plats was started, but not much was accomplished on account of rain. Sudan grass which was raked the previous week, was scattered and dried, and then re-raked and cocked. On Friday afternoon, the harrows were started, and harrowing of all fallow rotation plats and other fields was completed Saturday. Cultivating of the orchards was started on Saturday. Then the soil was too wet for field work, labor was utilized in working on the grounds, cutting grass, cleaning roads, etc.

On September 12th, Messrs. Letteer and Meade made a trip with Mr. William Cassin to his farm at Mitchell Lake, where he is pasturing a large number of cattle on Johnson Grass pasture. The cattle are making excellent gains, and under irrigation, the grass is furnishing a very large amount of grazing. It is Mr. Cassin's policy gradually to convert the entire sewer farm into a livestock project, the growing of hay for sale, the principal enterprise carried on heretofore, having become unprofitable on account of the low prices prevailing the last two or three years. On the trip, a visit was made to the new oil well recently drilled about ten miles south of San Antonio on the Pleasanton Road. The well flows at intervals, the total daily flow being estimated at about two hundred barrels. As a result of this well, there is considerable oil excitement in San Antonio, some land is changing hands, and many oil leases are being made. Several more wells are being drilled in the vicinity of the first one.

Messrs. Meade, Marshall and Brinsmaid of the Office of Crop Acclimatization, left Thursday night for points in northern Texas, and will not return again this season, the cotton work here being practically finished for the season.



25 September, 1915.

WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

## Belle Fourche.

During the week ending September 18, the maximum temperature was 80, minimum temperature 31, and precipitation .33 inch.

The frost on the 14th did not seriously injure the corn. The plats to be hogged in rotation 65 and 69 have been fenced and the hogs will be turned on as soon as the corn is ripe.

All alfalfa in Field A and the rate of seeding test in Field I has been mowed, raked, and cocked. The threshing is progressing slowly, due to the unusual amount of straw and the small machine. A new machine has been shipped to Newell and it is hoped it will arrive in time to thresh the grain in the irrigated rotations and the bulk grain.

Mr. Wentz resigned from the service on the 17th.

The table below shows the gains made in the pasturing experiment with hogs fed a ration of two pounds of shorts per hundred pounds of live weight as compared to a ration of two pounds of corn per hundred pounds of live weight.

Corn Lot									
Dates	No. of Days	No. of Hogs	Weights		Gain			Pounds Fed	Net Return Per A.
			Initial Lbs.	Final Lbs.	Total	% Daily	Per Day Per Hog		
8/11-8/17	6	7	337.0	357.0	20.0	.96	0.47	<u>Corn</u> 40.4	\$ 2.32
8/17-8/27	10	7	357.0	412.0	55.0	1.44	0.78	71.4	9.16
8/27-9/6	10	7	412.0	435.0	23.0	.54	0.33	82.4	3.04
9/6-9/16	10	7	435.0	478.0	43.5	.94	0.62	37.0	5.04
Totals...	36				141.5			281.2	\$16.56
Shorts Lot									
8/11-8/17	6	7	341.0	356.0	15.0	.72	0.35	<u>Shorts</u> 40.9	\$ 1.28
8/17-8/27	10	7	356.0	396.0	40.0	1.02	0.56	71.2	5.88
8/27-9/6	10	7	396.0	420.5	24.5	.60	0.35	79.2	1.32
9/6-9/16	10	7	420.5	477.5	57.0	1.28	0.81	84.1	9.44
Totals...	36				136.5			275.4	\$17.92

The net returns per acre in the above table are calculated on the basis of corn at \$1.80, shorts at \$1.60, and pork at \$6.50 per hundred pounds. These are market prices on the project at the present time.



25 September, 1915.

WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

## Belle Fourche (continued)

It is seen that the results secured by feeding shorts compare more favorably with those secured with corn than they did at the end of the first 16 days as reported in the Weekly Bulletin for September 18.

The following table shows the gains made by the spring pigs on alfalfa pasture since July 7, when they were turned on the plats:

Dates	No.	No.	Weights		Gain			Pounds	Net
	of Days	of Hogs	Initial Lbs.	Final Lbs.	Total	% Daily	Per Day Per Hog	Corn Fed	Return Per A.
Rotation - 65									
7/7-7/19	12	10	363.5	402.0	39.5	.86	0.32	87.2	\$ 7.56
7/19-7/29	10	10	403.0	452.5	49.5	1.14	0.49	80.6	10.64
7/29-8/7	9	10	452.5	474.0	21.5	.51	0.23	81.4	2.76
8/7-8/17	10	7	335.0	391.0	56.0	1.55	0.80	67.0	13.00
8/17-8/27	10	7	391.0	429.0	38.0	.93	0.54	78.2	7.52
8/27-9/6	10	7	429.0	465.0	36.0	.80	0.51	85.8	6.68
9/6-9/16	10	5	354.5	386.0	31.5	.87	0.63	70.9	6.00
Totals...	71				272.0			551.1	\$54.16
Rotation - 69									
7/7-7/19	12	10	384.5	421.0	36.5	.75	0.30	92.2	\$ 6.52
7/19-7/29	10	10	421.0	469.0	48.0	1.08	0.48	84.2	10.08
7/29-8/7	9	10	469.0	489.5	20.5	.47	0.22	84.4	2.36
8/7-8/17	10	7	358.0	396.0	38.0	1.01	0.54	71.6	7.80
8/17-8/27	10	7	396.0	442.0	46.0	1.10	0.65	79.2	9.72
8/27-9/6	10	7	442.0	464.0	22.0	.48	0.31	88.4	2.64
9/6-9/16	10	5	342.0	392.0	50.0	1.37	1.00	63.4	11.28
Totals...	71				261.0			563.4	\$50.40

The fall pigs gave total net return of \$39.88 per acre on rotation 65 and \$47.40 on rotation 69. Adding to these totals the net returns made by the spring pigs to date, we get total net return per acre of \$94.04 on rotation 65 and \$97.80 on rotation 69.

The net returns per acre in the above table are calculated on the basis of corn at \$1.00 and pork at \$7.00 per hundred pounds.



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WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

## Belle Fourche (continued)

Ten spring lambs were put on the triangular plat of alfalfa at the south end of Series II in Field A, on August 28. The plat contains an acre of land but a partition fence was out in and the sheep to the present date have been on just half of the plat.

The gains made by the lambs are shown in the following table:

Dates	No. of Days	No. of Sheep	Weights		Gains		
			Initial Lbs.	Final Lbs.	Total	% Daily	Per Day Per Sheep
8/28-9/6	9	10	755.0	785.0	30.0	0.43	.33
9/6-9/16	10	10	785.0	841.5	56.5	0.70	.56
Totals...	19				86.5		



## DEMONSTRATIONS ON RECLAMATION PROJECTS.

## FIELD NOTES.

## Boise.

During the week ending August 28 a visit was made to the farm of S. H. Vassar of Caldwell who has imported 100 head of calves from Tillamook, Oregon. Mr. Vassar's order had been for Shorthorns and Red Polls, but the calves received contained none of either breed, but apparently were nondescript grades including both Jerseys and Holsteins. These calves have been in poor condition since their delivery at Caldwell last spring, and many of them had died when the farm was visited. Some of them gradually declined or sickened and died suddenly, while some of them died almost immediately after they were received on the farm. The trouble was verminous bronchitis, according to the state veterinarian who made several trips to the farm. Present indications are that practically the entire 100 head will die, and some native calves which have run with those imported have also contracted the trouble and died. A request was sent to the Bureau of Animal Industry for a veterinarian to investigate the trouble.

One case of hog cholera has been found this week and another suspicious case in a large herd was located, but has not developed up to the present time.

Three silos in the course of construction have been visited and assistance given on two. Several other visits on miscellaneous business have been made.

Two visits were made during the week ending September 4, to the farm of S. H. Vassar who has been having trouble with Tillamook calves. Mr. Vassar reported that more than 30 head had died and others were in bad condition. Two had died the night before the last visit to his farm. Mr. Vassar is keeping an accurate account of all expenses and losses from this bunch of calves and his figures will be interesting by the time his losses have ceased. He has been treating the calves in various ways including chloroform in the nostrils and mixtures of chloroform and oil injected into the trachea, but has had no satisfactory results from any treatment.

Two herds of hogs were inspected for cholera this week but the disease was not found in either case.

Mr. Farrell visited the Project the last three days of the week, attending the meeting of the Sunny Slope Boys on Thursday afternoon.



25 September, 1915.

## DEMONSTRATIONS ON RECLAMATION PROJECTS.

Field Notes.

Boise (continued)

Measurements were made of a small pasture on which 12 head of cattle were grazing. On July 19th, the occupant of the farm on which the pasture is located stated that this pasture, which consists of Kentucky blue grass, white clover and alsike clover, had carried continuously, since the 15th of March, four cows, 4 yearlings and five calves, and had carried one horse since July 1st. The pasture was then write rank showing that it had not been stocked to its capacity. The area of the pasture was found to be 2.73 acres. A special report on pastures with special reference to their carrying capacity will be made from this Project at the close of this season. This report will be compiled from measurements of pastures and statement of owners with respect to number of stock pastured, the length of time they were pastured, pasture mixtures used, frequency of irrigating, character of soil and age of pasture. It is believed that such a report will show very strongly in favor of pastures under Boise Project conditions.

Considerable part of the week ending September 11 was spent in the office, catching up with work that had accumulated since the 14th of August which was the last day spent in the office until this week. There were eight calls at the office.

Most of the field work done this week has been with silos, corn for silage and inspection of hogs. Three herds of hogs have been visited, two of which had been vaccinated previously. In one of these herds 17 hogs which had not been vaccinated had died while none that were treated had died. In another herd 40 hogs most of which had been given the serum treatment had died. Both herds were badly infected at the time of treatment. In another herd visited, in which one hog had died, no disease was found.

A few silos are already being filled. A large percentage of the corn is fairly well matured but a great deal of it is still too green for silage. There has been no frost up to the end of this week, but a great deal of corn will probably be caught by the frost before it is mature. A great many silos have been built on the project this year. Some of them have not yet been completed. The exact number has not been learned but is probably not far from forty. Assistance has been requested on only a few of these, having been given on only eight including five solid wall concrete and three pits.



25 September, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

## Boise (continued)

On Saturday morning, an urgent request was received to go to Mr. Vassar's farm, where the disease among Tillamook calves has been reported. Mr. Vassar thought that he had made an important discovery in connection with the worms which have infested the lungs of these calves. It was found that his discovery consisted of myriads of earth worms which he believed to be the parents of the lung worms. He had taken up a piece of sod about one foot square and a few inches thick which contained probably several hundreds of the earth worms which he expects to send to the Department for identification.

Mr. Vassar's calves have continued to die, the chloroform treatment recommended by the experiment station of California having proved of no value. At the time of the last visit the calves were being treated by an Englishman who claimed to have had experience with the lung worm trouble in England. The results of this treatment have not been learned.

Upon a request from this office, a Federal veterinarian was sent here to investigate the trouble among these calves. He gave it as his opinion that nothing could be done to check the disease, thereby confirming the original opinion of the state veterinarian, who had later attempted treatment of the calves without results.

## Minidoka.

During the week ending September 4th only two calls to visit herds where the hogs were unthrifty were received. This is the smallest number of such calls in any one week since June. The highest number received in any one week was 23. Approximately one investigation in nine has resulted in finding cholera.

As a rule the pigs on the project are now being cared for better than at any other time during the past year. Considerable grain has been threshed. Where the threshing is not done much grain is being fed in the sheaf. Some trouble has been experienced with bearded wheat and barley. In many places the pigs are now in the stubble and most of these are doing well. On some farms peas are being hogged off.

A special prize to be given in addition to the cash prizes for the Boys' Clubs is a registered Duroc Jersey boar valued at \$75. The winning Club must organize a small Breeder's Association and use this boar for their spring pigs. The boy making



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DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

## Minidoka (continued)

the best general record will be given his choice of a trip to the State Fair or the cash equivalent.

Hogs (under 250 lbs.) are selling for 6¢. Butter fat is 24¢. Wheat has dropped to \$1.17 per cwt. Oats are 95¢ and barley \$1.00 per cwt. Baled alfalfa is worth \$7.50 on the cars which is 50¢ higher than formerly. Sheepmen are contracting for hay, measured and sold in the stack at from \$5.25 to \$6.00 according to the location. Water and character of the soil are both carefully considered in the selection of a location for winter feeding of range stock.

## Shoshone.

During the week ending September 11, eight farms were visited.

One hog feeding demonstration was started. The first weights were made on 68 spring pigs which were started on grain feed.

Most of the week was spent in giving assistance in connection with preparations for the project fair.

## Tieton.

The work of the week ending September 11 was of a miscellaneous character. The milk of eight cows (in two herds) was tested; computations were made of the August production of several other herds, and the testing work in two sections was organized to be done at one farm in each community. One call to examine a hog suspected of having cholera ~~was~~ **possible to suggest corrections** in the feeding which had resulted in indigestion. Cholera was evidently not present.

A show herd of six pure bred Berkshires were vaccinated for cholera. The serum alone treatment was used and the owner was encouraged to vaccinate two of the pigs himself. He inquired as to the cost of a suitable hyperdermic syringe and intends to buy one so that he may be able to give his herd protection at any time it is needed. This man will be supplied with the best hog cholera bulletins available to supplement the vaccination demonstration.



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DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

## Tieton (continued)

No hogs have died in the herd in which cholera was found two weeks ago, when the survivors were vaccinated. An appointment has been made to clean up the premises and the owner was given a list of the necessary material for the job. No other outbreaks of cholera have occurred on the project.

Butter fat has advanced from 26 to 27 cents per pound. Hogs are still at \$6.50, top, for grain-fed stuff; but buyers are very discriminating and only very good pigs get the top price. Alfalfa hay is still \$9. per ton, baled, and a great deal of hay is still moving to the market.

## Huntley.

During the week ending September 18th several calls for information regarding treatment for sterility in cows were received. This condition is becoming quite prevalent on the project. In one or two instances contagious abortion is suspected as the cause, but in others there is no evidence of this disease. Dr. Smith, Deputy State Veterinarian, was consulted regarding the situation and he will assist as soon as his time will permit, in locating the cause of the trouble.

Thirteen farms were visited during the week. One of the very interesting places visited is that of J. H. Mueller. Mr. Mueller has what has been considered a poor place, about one half of it is so heavy that alfalfa cannot be grown successfully on it. On part of this land Mr. Mueller has grown an enormous crop of sweet clover which he is now cutting for seed. Mr. Mueller is so enthusiastic over his prospects for good returns from this seed crop that he says he wouldn't abandon the crop at its present stage for \$100.00 per acre. Mr. Mueller also has 1800 pounds of honey which his bees produced from the sweet clover.

Some losses from black leg occurred during the week. E. C. Hackney and O. E. Scott were assisted in vaccinating their young cattle.

Twenty milk samples were tested on Saturday.

There are no new developments in the hog cholera situation. No serious outbreaks have occurred and there doesn't seem to be much cause for alarm.



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DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

North Platte.

Losses of Spring Pigs in 1915.

Late last spring, following a period of cold, damp weather on the North Platte project, Mr. Jones found that a large number of spring pigs had died from the effects of exposure. It was clear that if pigs were to be saved, better housing facilities for sows and litters would have to be provided. Preliminary plans were made for instituting a vigorous campaign with a view to encouraging the building of better hog houses on the project during the present autumn and the coming winter.

A part of this campaign is to secure definite figures from a fairly large number of farmers under various local conditions as to the losses in young pigs during the present year. Mr. Jones planned to secure information from about 100 swine growers - about one sixth of the total number on the project. Up to September 11, figures had been secured from 41 herds, containing 812 sows which farrowed 5388 pigs last spring. The collection of this information will be continued until about October 15, when a circular letter on the subject hog houses will be issued as a beginner of the better-hog-houses campaign.

The figures on hand September 11, though incomplete, are of much interest. The following table is a summary of those figures:

Number of herds investigated.....	41
Number of sows farrowing.....	812
Average number of sows per herd.....	20-
Highest number of sows per herd.....	110
Lowest number of sows per herd.....	3
Number of pigs farrowed.....	5388
Average number of pigs per litter.....	7-
Highest herd average of number of pigs per litter.....	10
Lowest herd average of number of pigs per litter.....	4
Number of pigs lost before weaning time.....	1765
Average number of pigs lost per litter.....	2+
Highest herd average of number of pigs lost per litter.....	6+
Lowest herd average of number of pigs lost per litter.....	0.4
Per cent of pigs lost before weaning time.....	33-
Highest herd average per cent loss.....	71
Lowest herd average per cent loss.....	10



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DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

## North Platte (continued)

It will be noted from the above summary that the inquiry is covering enough herds, sufficiently diverse, to give a fair indication of the losses sustained by project swine growers generally last spring. The herds already investigated include about 7 per cent of the swine growers; and they vary in size all the way from 3 sows to 110 sows. When the inquiry is completed it will probably include at least 1000 sows, and 7000 pigs.

The losses, so far investigated, were nearly all found to be due to exposure. They amounted to a third of the pig crop. Some farmers, with inadequate housing facilities, lost as high as 70 per cent, while others with better houses lost only about 10 per cent.

The possession of facts will be of great assistance to Mr. Jones in his campaign for better housing facilities. The information was obtained by asking the farmers how many pigs were farrowed, and how many pigs lived to weaning time; and investigating the causes of the losses. This practice of securing definite, specific, and representative information as "ammunition" for a campaign merits the serious consideration of all the field men.

F.D.F

NOTES REGARDING LIVE STOCK CONDITIONS AT TILLAMOOK,  
OREGON, AND ADJACENT POINTS.

During the past year farmers on the Boise project have imported several hundred head of calves from the Tillamook country in Oregon. These calves have been purchased largely through agents of the express company at points on the Boise project and without inspection by the purchasers. They have cost from \$6 to \$10 a head, delivered at Caldwell. Most of these calves have been imported when less than one week old. The losses following the importation have been extremely heavy, as has been reported frequently by Mr. Ireland. It was known that while these calves cost the Boise project farmers from \$6 to \$10 per head, delivered, they could be obtained for from \$1 to \$1.50 per head at Tillamook. Most of the calves were imported for feeding purposes, and when the farmers ordered them they usually ordered calves of beef breeds. It was



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## DEMONSTRATIONS ON RECLAMATION PROJECTS.

Notes Regarding Live Stock Conditions at Tillamook, Oregon, and Adjacent Points. (continued)

found, however, when the calves arrived, that practically none of them had any good beef breeding. On the whole, this practice of importing calves has not been successful. In some individual instances it has been disastrous.

In addition to importing calves for feeding purposes, some of the farmers on the Boise project have sent to the Tillamook country for animals for breeding purposes. Most of these importations have been practically as unsatisfactory as those noted above.

Early in the summer Mr. Ireland was requested to accompany a representative of the Caldwell Cooperative Creamery Association to the Tillamook country to look into the live stock situation there. The trip was made during the latter part of August. The following notes are extracts from Mr. Ireland's report of his trip:

The trip was made in company with Mr. A. B. Cooper, a dairymen of the Boise project and Treasurer of the Caldwell Cooperative Creamery Association. The first point visited outside of Portland was Oregon City. At this point, while considerable dairying was found, it was not possible to locate stock in sufficient numbers to be of interest. The Clear Creek Creamery at Oregon City, it was found, has been paying 31 cents for butter fat during the season, when the Idaho creameries paid as low as 22 cents. Clear Creek Creamery butter sells for one cent a pound under the price paid for fat. Patrons of the creamery number several hundred, most of them being small producers. The quality of stock in the vicinity of Oregon City is good and the price reasonable. Heifers from 6 months to 2 years old were quoted at from \$15 to \$35.

The next point visited was Tillamook, where we met the county agricultural agent, who took us to a meeting of the Tillamook Cow Testing Association. The visit to Tillamook confirmed our suspicions regarding the class of stock that has been shipped to Idaho. We found that there was not a single beef herd in the country tributary to Tillamook, although calves called "Durhams" had been shipped into Idaho by the hundreds. Many of these calves are merely grade Jerseys and Holsteins, while most of them are from common red cows and sired by grade bulls. We found one herd of grade cows which contained a few fairly good beef animals and which was headed by a very inferior grade Shorthorn. We were told that this was the nearest approach to a beef herd in the locality. Many herds are headed by sires of very low grade and quality. The owners of these herds sell all of their calves and buy young heifers as they are needed. It is from these herds that most of the calves shipped to Idaho have come.



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## DEMONSTRATIONS ON RECLAMATION PROJECTS.

Notes Regarding Live Stock Conditions at Tillamook, Oregon, and Adjacent Points. (continued)

In contrast to the above, we found a great many exceptionally good dairy herds, particularly those of Mr. Kunze and Mr. Fitzpatrick. These herds averaged about 350 pounds butter fat per year per cow. Mr. Kunze has mostly purebred stuff and sells no heifer calves, while Mr. Fitzpatrick has a grade herd and sells nearly all of his calves. These calves are contracted for in advance to his neighbors at from \$5 to \$10 a head. Other men are using purebred sires, so that within a short time it may be possible to get desirable stuff at reasonable prices from Tillamook.

A plan is on foot at the present time to market all surplus stock through a cooperative association, probably the cheese factory association. It is proposed to furnish with each calf sold a record of its breeding and the quality of its sire and dam, and to permit no calves to be shipped under the age of one week. The practice of shipping calves immediately after birth has been quite extensively followed and has no doubt been the cause of a great deal of loss and dissatisfaction resulting from the importation of these calves into Idaho. Generally, we found the men with whom we talked very favorable to the cooperative selling plan and opposed to some of the practices which have been followed by dealers in the exportation of calves. They believe that a careful grading of all calves sold, with a scale of prices governed by the quality of the stock, is the surest way to establish a satisfactory trade. If this cooperative plan is placed in operation the Tillamook country should become a valuable source of supply to surrounding dairy districts.

We inquired particularly regarding cattle diseases at Tillamook, as well as at other points, and were repeatedly cautioned by local men to be on the lookout for tuberculosis. We received no definite information regarding the prevalence or absence of this disease at Tillamook other than that the State Veterinary Department is taking steps towards controlling the disease and that a few herds are kept tested while others are not tested at all.

In the vicinity of Corvallis we found neither the quality nor the quantity of stock that was found at Tillamook. There is, however, a certain amount of surplus stock produced which can be purchased at prices ranging from \$15 to \$25 for six months old heifers of dairy and beef strains, respectively, and from \$25 to \$35 for yearling heifers and \$35 to \$45 for two-year old heifers. These prices are not particularly attractive, in view of the quality of the stock.



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## DEMONSTRATIONS ON RECLAMATION PROJECTS.

Notes Regarding Live Stock Conditions at Tillamook, Oregon, and  
Adjacent Points. (continued)

At Fairview, an extensive dairy district near Portland, we found some of the best dairy herds seen on the entire trip but secured very little information concerning the possibility of buying young stock. The dairies supply milk to Portland and calves are sold as early as they can be disposed of. Most of these go to the Portland markets for veal, and from the prices quoted to us, it appears that it would be hard to compete with the Portland market. A good many of the dairymen in this section are breeding to purebred sires and if calves can be obtained from them at reasonable prices, Fairview would be one of the best markets we found.

At Sumner, near Tacoma, Washington, conditions were found to be almost identical with those at Fairview with respect to the quality of herds and the disposal of calves. The herds, however, were not as numerous nor as large as those at Fairview. At Tacoma a breeder and dealer in dairy cattle stated that well-bred yearling Holsteins could be bought for \$60 f.o.b. Tacoma, subject to the tuberculin test. He had twenty head of long yearlings, most of them bred to a registered bull of very strong A.R.O. pedigree on hand at the time and stated he could make up a shipment of 150 head nearly as good.

We were interested in noting that many farmers on the coast have adopted the silo as a necessary institution, in spite that in many places no satisfactory silage crop can be grown, or has been grown up to the present time. In many sections around Tillamook silos were being filled with timothy and orchard grass. In other places wheat and oats were being used. At Tacoma and Portland corn is being grown and gives very satisfactory yields.

As far as locating any particular district where cheap and desirable young dairy stock can be obtained is concerned, our trip was not particularly successful. However, the trip was worth while, especially in view of the fact that in another year there may be further importations of stock from the Tillamook country and the information obtained on this trip will be helpful in this connection.



2 October, 1915.

## WESTERN IRRIGATION AGRICULTURE.

## FIELD NOTES.

Yuma.

The maximum temperature for the week ending September 18 was 99, minimum 51 and greatest daily range 46.

Two men were employed during the week painting buildings. The roses on the station were pruned.

The following plats sown to cowpeas were turned under: C-6-7; D-6-7. Sorghum on C-25 and alfalfa plats A-22; B-9 to 17, 19 to 22 and D-19 were harvested. Date and eucalyptus plantings on west road, A-16-17 dates, A-26 and small nursery plats were hoed. All farm borders are being hoed. Sorghum plats D-8-9-11 and 12 and E-7 cotton were cultivated.

Mr. H. G. McKeever visited the station on the 12th and 14th.

Huntley.

During the week ending September 25, harvesting of the third crop of alfalfa was completed. Alfalfa seed in Fields M-II-2 and E was harvested. One team has been at work plowing Field L. Construction of the seed and bunk-house was completed. The first killing frost occurred on September 19. Only the earliest varieties of corn were matured.

Field K.

The third cutting of alfalfa was harvested on this field. The results obtained on all alfalfa plats for the three cuttings are shown in the following table:

Rot. No.	Plat No.	Pounds Per Plat.				Tons Per Acre				Age Years
		1st	2nd	3rd	Total	1st.	2nd.	3rd.	Total	
67A	K-II-4	576	746	---	1322	1.15	1.49	----	2.64	1
67B	-5	1480	1118	1046	3644	2.96	2.24	2.09	7.29	2
67C	-6	Hogged-								3
61A	K-III-4	544	716	---	1260	1.09	1.43	----	2.52	1
61B	-5	1560	1236	1166	3962	3.12	2.47	2.33	7.92	2
61C	-6	1484	1126	1104	3714	2.97	2.25	2.21	7.43	3
60A	-10	548	682	---	1230	1.10	1.36	----	2.46	1
60B	-11	1492	1154	1044	3690	2.98	2.31	2.09	7.38	2
60C	-12	1250	1012	1028	3290	2.50	2.02	2.06	6.58	3
40D	K-IV-2	400	708	---	1108	.80	1.42	----	2.22	1
40A	-3	1130	1154	1022	3306	2.26	2.31	2.04	6.61	2
42D	-8	514	650	---	1164	1.03	1.30	----	2.33	1
42A	-9	1390	1200	1146	3736	2.78	2.40	2.29	7.47	2
44D	-12	298	644	---	942	.60	1.29	----	1.89	1



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WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

Huntley (continued)

Rot. No.	Plat No.	Pounds Per Plat				Tons Per Acre				Age Years
		1st	2nd	3rd	Total	1st.	2nd.	3rd.	Total	
44A	K-IV-13	1134	968	976	3078	2.27	1.94	1.95	6.16	2
8CC	-22	810	748	798	2356	1.62	1.50	1.60	4.72	4
Average -----						1.95	1.85	2.07	5.04	

	No. Plats	Maximum	Minimum	Average
1st year..	6	2.64	1.89	2.34
2nd year..	6	7.92	6.16	7.14
3rd year..	2	7.43	6.58	7.00
4th year..	1			4.72

Apring pigs on alfalfa pasture, Rotation 67, made following gains:

Lot	No. Days	No. Hogs	Initial Weight	Gain Pounds	% Daily Gain	Total Gain Per Day, Lbs.	Daily Return Per Acre
1	9	8	585	22	.42	2.3	.18

Above pigs taken off pasture September 22, and divided into two lots of 4 pigs each. One lot to be used in hogging experiment K-II-1, Rotation 67, and other to be finished off on corn and alfalfa hay in feed lot.

Belle Fourche.

During the week ending September 25, the maximum temperature was 85, minimum temperature 30, and precipitation T.

Hauling of alfalfa, third cutting, in field A and the rate of seeding in field I, was finished.

All threshing is finished except a few of the variety grains and the nursery rows. Yields will be reported in the next weekly report.

A Farmer's Institute and Fair was held at Newell, September 24 and 25.



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## DEMONSTRATIONS ON RECLAMATION PROJECTS.

## NEGATIVES FOR LANTERN SLIDES.

It is expected that arrangements will soon be made whereby each field man will have the use of a stereopticon during all or a part of the coming winter. In order that the illustrated lectures may be made effective, each field man should be provided with lantern slides illustrative of conditions in his own locality. These local views should, in most cases, predominate in each lecture.

In order that slides may be provided in plenty of time for the winter meetings, it is requested that each field man, who has not already done so, send to the Washington office as soon as possible the negatives of all the official photographs taken since his employment in this office.

The negatives should be numbered and accompanied by a type-written statement showing, for each negative, the subject, the date photographed, the owner of the subject shown and his address, and the field man's comments on the subject shown. The list should also indicate the negatives of which the field man wishes prints, the number of prints of each negative desired and the negatives of which lantern slides are desired.

Hereafter all official negatives should be sent to Washington at frequent intervals, so that prints and lantern slides can be provided promptly on request. To avoid confusion of negatives sent in at different times, the numbering of the negatives should be consecutive throughout.

F.D.F.

## Minidoka.

Mr. Rinehart reports the following for week ending September 11:

At the present time, the cholera situation is much improved, only two cases having been found this month. Five investigations were made this week, in two of which cholera was found. The first herd was vaccinated by the Federal Veterinarians. Assistance was given with the vaccination of the second herd.

There is a slight increase in the interest in dairying which has been very poor owing partly to the fact that the prices for butter-fat have been rather low. The price of fat went to 25¢ this week. The lowest price received so far this year was 19¢ in June. While the price of feed is much less than in the dairy sections of the East with which comparisons are usually made, the difficulty of securing good cows and competent help is much greater. At the present time



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DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

## Minidoka (continued)

the interest in sheep raising, swine growing and the producing of beef is much better than the interest in dairying. In spite of these facts, however, several of the most successful farmers of the Project are planning to establish dairy herds while those who have started into dairying in the right way intend to continue.

The first frost occurred on Friday night, September 10th. It was quite severe, killing the potato vines, corn and vegetables.

The pigs of Mr. Schulz of Burley were weighed into the pea field this week. In this demonstration, 97 spring and summer pigs will be used. The average weight of the herd was 71.4 pounds. The average weight of the pigs that came about April 1st was 80 pounds; those that came about May 15th averaged 50 pounds, and those that came the last of June, 31 pounds.

In the Heybrun Pig Club, 60 per cent. of the original members have remained. From the experience this year it seems that a club in which the parents take no interest is without value. In some cases the parents have ridiculed the boy and discouraged him in every way possible. This like all other demonstration work, must run a year or two before it can be properly supported. It is hoped that the showing of the successful clubs at the fair will have beneficial effect upon those who have seen no value in the work.

## Boise.

The work for the week ending September 18 was mostly with silos and hogs. Four visits were made to inspect hogs. No indications of cholera were found in any of the herds.

A number of men having silos were visited and a circular letter concerning putting frosted corn into the silo was sent to everyone known to have silos which were not yet filled. This letter was issued on account of a very heavy frost which occurred on the night of September 18th. The frost was quite general and did considerable damage to corn and truck crops. In some places ice was formed.

Part of one day was spent with Mr. C. R. Peckham of Wilder in looking up breeding sheep for his ranch. Mr. Peckham expects to seed most of his place to pasture and hay and raise mutton lambs. He plans to use Cotswold ewes and either Hampshire or Shropshire rams. It was found very difficult to locate Hampshire rams on account of the great demand for them at this time. A farmer in Boise who has one of the best flocks of Hampshires in the state, and probably in



2 October, 1915.

## DEMONSTRATIONS ON RECLAMATION PROJECTS.

Field Notes.

## Boise (continued)

the United States, has contracted all of his ram lambs for five years ahead. The only Hampshires which Mr. Peckham located were cut backs, being poor or late lambs, most of them born in March or April and weighing about 35 pounds at the present time. These were priced at about \$15 to \$20 per head.

## Truckee-Carson.

During the two weeks ending September 18, 6 days were spent away from the Project. Three and one-half days were spent in a trip to Cache Valley, Utah, for the purpose of assisting a rancher to locate a herd of dairy cattle. Eighteen head of grade Holstein females and one purebred Holstein bull were imported as a result of this trip. The price paid in Utah was from \$40 to \$75 a head.

Two and one-half days were recently consumed in a trip to Dixon, California for the purpose of assisting a rancher in selecting a foundation herd of purebred Shropshire sheep. As a result of this trip, 49 head of Shropshire females and two bucks were imported.

While on this trip in California a visit was made to a San Francisco wholesale produce house for the purpose of inducing the management to establish a buying station on the Project for live and dressed poultry of all kinds where poultry and produce will be purchased at regular intervals and shipped by the company in bulk to San Francisco. The firm visited looked upon the plan very favorably and it is hoped that a buying station will be established before the holidays.

Much of the time the past two weeks has been taken up in connection with the state fair which will be held at Fallon, September 20 to 25. At this time the dairy and pig club work will terminate. The prizes for the club work are given this year by the Fair Association. Considerable interest is being taken locally in the state fair. It is expected that the various exhibits will be largely of Truckee-Carson origin. This is due partly to the isolation of the different agricultural sections of this state.



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DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

## Tieton.

All of three days of the week ending September 18 and a part of a fourth were spent in testing milk. Three calls were received in regard to sick hogs and cholera was found on one farm by post mortem examination. Two hogs had died and post mortem was difficult because of post mortem changes. Inasmuch as the case was a difficult one to determine and the owner had a part of his herd fitted for the State Fair, parts of the entrails were taken to the Deputy State Veterinarian for examination. The trouble was diagnosed as poisoning and the herd was admitted to the fair. No more losses have been reported from the farm. The pigs were on alfalfa pasture and were receiving a grain ration of rolled barley corn and linseed oil meal.

The pure bred seed corn plats are nearly ready to harvest and part of one day was given to one of the men who raised the corn. The seed will be picked and kiln dried and the selection continued on the same farms next year. Considerable seed will be distributed to farmers who can take good care of a plat from which to produce their own seed for their crops the next year.

The time is so fully taken up with scheduled work and a few calls that no attention has been given to completing the farm survey. By far the greater part of the project has been gone over and the remainder will be covered whenever possible.

The State Fair was held at North Yakima during the week ending September 25, and parts of three days were spent at the fair. The live stock and agricultural exhibits were very good and the Yakima Valley was well represented in the dairy and hog exhibits. Benton county took first place in the county exhibits and made an especially good showing of corn. The Tieton project had only one representation, a herd of pure bred Berkshires that showed well in comparison with others, especially as this is their first year.

Conferences were had with Dr. Cardiff, of the State College, Mr. Fish, the state dairy commissioner and his deputy Mr. Carmen who will spend some time in the valley. Some time was spent with Mr. Frevert, of the U. S. Dairy Division and with Mr. Lampson, the Benton county agriculturist. A short time was also spent with Mr. Rader, agriculturist of King county (Seattle) and arrangements were made to spend some time with him the first of next week.



2 October, 1915.

## DEMONSTRATIONS ON RECLAMATION PROJECTS.

Field Notes.

## Tieton (continued)

Two more herds of hogs adjacent to the outbreak of last week, were vaccinated. Serum only was used and 32 head were vaccinated. The owner of one of the herds vaccinated asked for material with which to begin cow testing. His herd of eight Jerseys will be tested this month.

Mr. Dean, Assistant on the Umatilla Experiment Farm, spent Monday on the project.

## Huntley.

Seven farm visits were made during the week ending September 25. Thirty-four milk samples and some cream samples were tested. The later part of the week was spent at Helena in attendance at the Montana State Fair.

The following farmers are planning to plant pastures next spring:

O. D. Robertson, Pompeys Pillar.....	10 acres
W. F. Fricke, Osborn .....	4 acres
E. T. McDermid, Huntley .....	5 acres
J. W. Bush, Ballantine .....	6 acres
O. Eikleberg, Osborn .....	3-1/2 acres

Six other farmers are considering the planting of pastures, but have not yet decided definitely. The five farmers named above are located in four different districts of the project, so that their plantings will be well distributed for object-lesson purposes. If these pastures are successful a decided increase in the pasture acreage will doubtless result.

There is a great deal of complaint regarding sterility in cows. Contagious abortion is suspected, but its presence has not been definitely determined. The matter is being investigated in co-operation with the deputy state veterinarian.



9 October, 1915.

## WESTERN IRRIGATION AGRICULTURE.

## FIELD NOTES.

## San Antonio.

The maximum temperature for the week ending September 25th was 92, minimum 68, and greatest daily range 24. The entire week was wet, rain falling on four days. The total precipitation was 1.64 inches. Most of this came in one shower of 1.49 inches on Tuesday night.

The large amount of rainy weather interfered greatly with all outside work. Part of C-4 was disked to kill volunteer oats. Disking of the corn and milo plats in the rotation experiments was started. This treatment was necessary in order to kill the corn and milo which has started growth during the wet weather. Whenever weather permitted, cotton picking was continued.

Some time was consumed in hauling wood from the new tract which was grubbed during the summer. Some time was also used in ginning cotton, cleaning out corrals, etc.

Mr. E. B. Brown spent Friday and Saturday at the station, during which time he shelled the corn grown in his experiments this season.

## Belle Fourche.

During the week ending October 2, the maximum temperature was 76, minimum temperature 30, and precipitation .56 inch.

The alfalfa in Field I and K was cut and raked and the beets and potatoes in the fall-irrigation experiment were harvested.

The following plats in Field A were manured: A-I-36, 33 and 20; A-II-17. The clover in A-II-27 and 48 was harvested for seed.

The hogs were turned into the corn in rotations 65 and 69 on the 27th.

On Saturday afternoon there was a heavy hailstorm. No very serious damage was done except to garden truck. The spring seeded alfalfa was damaged to such an extent that no yields can be determined on the last cutting. The alfalfa in the sheep pasturing experiment was also damaged to quite an extent and the period of pasturing shortened.



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WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

## Belle Fourche (continued)

The yields of the 20 oats plats in the irrigated rotation are summarized below:

	Yield Per Acre		Ratio of Grain to Straw
	Grain Bushels	Straw Tons	
Maximum	118.5	2.68	1 : 1.44
Minimum	39.9	0.54	1 : 0.85
Average	92.7	1.65	1 : 1.09

Of the 20 plats, 11 yielded more than 100 bushels per acre. The highest yield, 118.5 bushels per acre, was obtained in rotation 48, in which oats follows wheat after two years of alfalfa. The lowest yield was secured from one of the continuously cropped oats plats. The average yield was 92.7 bushels per acre, as against 78.8 in 1914; 39.0 in 1913 and 51.9 in 1912.

The yields of spring wheat, winter wheat, flax and barley in the irrigated rotations are summarized below:

Crop	No. of Plats	Yield Per Acre					
		Grain, Bushels			Straw, tons		
		Maximum	Minimum	Average	Maximum	Minimum	Average
Spring Wheat..	7	30.4	12.1	20.9	2.05	0.46	1.11
Winter Wheat..	3	44.3	15.8	27.1	1.57	0.58	0.95
Flax.....	4	18.7	8.3	15.1	0.98	0.43	0.78
Barley.....	2	63.3	39.0	51.2	1.94	0.92	1.43

The average yields of all of the above except spring wheat were somewhat higher than in 1914.



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WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

## Belle Fourche (continued)

The yields of the 25 plats of alfalfa in the irrigated rotations are summarized below, with comparisons with the yields in 1914:

	Yield Per Acre, Tons				
	1st.	2nd.	3rd.	Total, 1915	Total, 1914
Maximum..	1.38	1.97	1.63	4.80	5.14
Minimum..	0.46	1.18	0.96	1.01	1.56
Average..	1.05	1.44	1.27	3.17	3.00

The following is a statement of the yields in 1915 of the alfalfa in the rate-of-seeding tests started in 1913 and 1914:

Rate of seeding	Yield Per Acre, Tons							
	Planted in 1914				Planted in 1913			
	1st.	2nd.	3rd.	Total	1st.	2nd.	3rd.	Total
2.5	1.26	1.30	1.52	4.08	1.40	1.10	1.24	3.74
3.0	1.30	1.70	1.64	4.94	1.00	1.50	1.26	3.76
4.5	1.60	1.90	1.68	5.18	1.10	1.45	0.90	3.45
6.0	2.10	1.80	1.83	5.73	0.90	1.55	1.06	3.51
8.0	1.80	2.00	2.40	6.20	1.20	1.30	1.06	3.56
10.0	2.24	2.30	1.90	6.44	1.16	1.40	1.02	3.58
11.5	2.36	2.12	1.90	6.38	0.90	1.10	1.28	3.28
13.0	2.20	1.98	1.86	6.04	1.10	1.20	1.02	3.32
15.0	2.10	1.70	2.04	5.84	1.04	1.40	1.25	3.69
16.5	2.10	1.80	2.13	6.03	1.18	1.20	1.03	3.41
18.5	2.10	1.60	2.26	5.96	1.00	1.20	1.19	3.39
20.5	2.40	1.70	2.00	6.10	0.88	1.10	1.13	3.11
22.5	1.90	1.70	2.20	5.80	0.94	1.30	1.10	3.34
25.0	2.10	1.70	1.76	5.56	1.46	1.10	1.38	3.94



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## WESTERN IRRIGATION AGRICULTURE.

Field Notes.

## Belle Fourche (continued)

The table below gives the average yields of alfalfa obtained in the time-and-method-of-planting experiment started in 1914:

No. of Plats		Yield Per Acre, Tons			
		1st.	2nd.	3rd.	Total
3	Av. planted without nurse crop, early, May 8.....	1.34	1.23	1.29	3.86
2	Av. planted without nurse crop, late, June 11.....	1.32	1.38	1.32	4.02
2	Av. planted with wheat cut for hay.....	1.45	1.53	1.38	4.36
2	Av. planted with wheat cut for grain.....	1.13	1.27	1.23	3.63
2	Av. planted in rows 21" apart	0.92	1.15	1.03	3.10
2	Av. with nurse crop of oats	0.65	0.87	1.04	2.51
2	" " " " " barley	0.80	1.34	1.50	3.64
2	" " " " " flax	1.20	1.32	1.20	3.72

## Truckee-Carson.

The potato varieties on A-6 were harvested during the week ending September 25. The Burbank variety this year out yielded all other varieties, but was somewhat inferior in shape on account of the second growth which took place. The Dietz Burbank has been grown locally by a Mr. Dietz for several years and hill selections have been made for seed. Burbank #1 and Burbank #2 have also been grown locally for 5 years but hill selections have not been made. Kent's Burbank was imported from Idaho in the spring of 1915. It is interesting to note that the Dietz Burbank out yielded all the other strains of Burbank. The American Wonder and Colorado Pearl had a much more desirable shape than the Burbanks. The results of the test are shown in the table following.



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WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

## Truckee-Carson (continued)

Variety.	Row Length Feet	Useable		Small		Total Yield
		Yield	Yields 100 ft rows	Yield	Yields 100 ft rows	
Burbank, Dietz.....	268	225	84	91	34	118
Burbank, #2.....	270	209	77	70	26	103
Burbank, #1.....	270	154	57	63	23	80
Earliest of all.....	390	198	51	78	20	71
American Wonder.....	270	135	50	63	23	73
Colorado Pearl.....	333	142	43	55	17	60
Rusty Coat.....	206	88	43	35	17	60
Burbank, Kent's.....	264	110	42	40	15	57
Early Rose.....	202	77	38	46	23	61
Great Divide.....	288	89	31	40	14	35
Hundredfold.....	250	75	30	37	15	45
New Snow.....	93	25	30	9	10	40
Pride of Mult nomah.	216	69	27	29	13	40
White Prizetaker....	212	56	26	43	20	46
Irish Cobbler.....	98	25	26	16	16	42
White Beauty.....	276	63	25	57	21	46
Gold Coin.....	252	64	25	38	15	40
Idaho Rural.....	315	71	23	50	16	39
Fernley White Beauty	351	75	21	46	13	34
Early Freeman.....	258	55	21	22	9	30
Rural New Yorker....	104	19	18	18	17	35
Triumph.....	102	18	19	13	13	32
Ohio.....	342	55	16	86	25	41
Victor.....	300	49	16	57	19	35
Livingston.....	95	15	16	4	4	20
Seneca Beauty.....	206	57	23			

A row of Rural New Yorker potatoes 100 feet long, planted with whole potatoes yielded 106 pounds marketable potatoes, while the average yield of two rows of equal length planted with



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Field Notes.

## Truckee-Carson (continued)

potatoes cut in quarters was 32 pounds. The stand obtained from : .  
 the whole potatoes was perfect while the stand from the 1/4 cut  
 seed was about seventy per cent.

7 The barley varieties grown on the farm of H. E. Smith were  
 threshed. California feed was found to be the heaviest yield-  
 ing variety and Hulless the lowest. The results obtained were  
 as follows:

	Area, Acres	Bushels Per Acre
California feed	.9	42.5
Hannchen.....	.9	33.0
Svanhals.....	1.12	29.9
Kents.....	.9	29.9
Hulless.....	.45	25.4

The Japanese and Hog Millet on C-2 and C-3 were harvested.  
 The former yielded at the rate of 1345 pounds of hay per acre  
 and the latter 1032 pounds. The soil on which these were grown  
 was too alkaline for the successful growing of most crops. Jap-  
 anese Millet seems to be better suited to growing on alkali soils  
 than any of the other varieties.

The third crop of alfalfa was cut on all fields.

During the 17th period, ending September 11, the hogs on the  
 pasture experiment made very little profit, in fact the Berkshires  
 did not pay for the feed consumed. During the 18th period Sep-  
 tember 18, there was a net loss of 74 cents. This is probably  
 due to the shortness of the pasture. At the close of this period  
 two of the poorest pigs of each breed were put in a pen to be fed  
 dry hay and a 2% ration of barley.

The results of the pasture experiment to September 18 are  
 summarized in the accompanying table.



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WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

Truckee-Carson (continued)

All periods - May 16 to September 18.  
 125 days.

	Durocs	Berkshires	Total
Number of pigs.....	5	5	10
Initial weight, pounds.....	224	166	390
Final weight, pounds.....	501	367	868
Total gain, pounds.....	277	201	478
Daily gain, pounds.....	2.2	1.6	3.8
Daily gain per acre, pounds.....	17.7	12.9	15.3
Daily gain per cent.....	.65	.64	.64
Barley fed, pounds.....	356.5	640.3	1496.8
Cost of barley at 1-1/2 cents....	\$12.85	\$ 9.60	\$ 22.45
Value of gains at 7 cents.....	\$12.39	\$14.07	\$33.46
Net return.....	\$ 6.54	\$ 4.47	\$11.01
Daily net return per acre.....	\$ .42	\$ .29	\$ .35

The results obtained from the feeding of the two Berkshire pigs with alfalfa hay and a 2% ration of barley at Mr. Suttan's are very encouraging as they have made a daily gain for all periods of .98% and an average net profit of 46 cents per week for 8 weeks. The results in detail are shown in the table below.

	5th period 8/26--9/4 7 days	6th period 9/4--9/11 7 days	7th period 9/11--9/18 7 days	8th period 9/18--9/25 7 days	All periods 7/31-9/25 56 days
Number of pigs.....	2	2	2	2	2
Initial weight, pound	183	199	213	224	141
Final weight, pounds.	199	213	224	243	243
Total gain, pounds...	16	14	11	19	102
Daily gain, lbs.	2.3	2.0	1.6	2.7	1.8
Daily gain per cent..	1.20	.98	.72	1.17	.98
Barley fed, pounds...	25.6	27.9	29.8	31.4	200.9
Cost of barley at 14 1/2¢	\$ .38	\$ .42	\$ .45	\$ .47	\$ 3.01
Value of gain at 7¢	\$ 1.12	\$ .98	\$ .77	\$ 1.33	\$ 7.14
Returns over cost of of barley .....	\$ .74	\$ .56	\$ .32	\$ .86	\$ 4.13
Hay fed, pounds	15	22	25	35	158
Value of hay \$6.....	\$ .05	\$ .08	\$ .08	\$ .10	\$ .47
Net return.....	\$ .69	\$ .42	\$ .24	\$ .76	\$ 3.66



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## DEMONSTRATIONS ON RECLAMATION PROJECTS.

## TREATMENT OF CONTAGIOUS ABORTION IN CATTLE.

A short time ago Mr. Christopher wrote to the office requesting information regarding the matter of testing cows for contagious abortion, and also regarding a treatment for this disease sold by a Dr. Roberts, of Waukesha, Wisconsin. The matter was referred to the Pathological Division of the Bureau of Animal Industry. Under date of September 24 a letter was received from the Pathological Division, in which it was stated:

"In regard to the testing of cows on the Huntley project, it is possible to have them tested by forwarding to this office a one-half-ounce sample of blood serum from each animal. However, the drawing of blood and preparing the serum for shipment is a laborious operation, even for an expert properly equipped, and the presence of the disease can be determined without recourse to the test wherever abortions have occurred. All abortions should be treated as though contagious, and the treatment recommended applied immediately.

"In regard to the Roberts literature, this office considers his claims extravagant, and his products without effect in controlling the disease, except in so far as the antiseptic sold by him may have some value."

The Pathological Division also sent a copy of their circular letter on the subject of contagious abortion. This circular might be regarded as the latest authoritative statement by the Bureau of Animal Industry on this subject. It is, therefore, quoted below:

"The disease is caused by a specific infective agent, the *Bacillus abortus*, and abortion occurs comparatively infrequently from other causes. Many have thought that abortion was due to injury such as blows, horn thrusts, falls, etc., or to the eating of spoiled food or certain herbs, but careful investigations have proven these claims to be largely unfounded. Contagious abortion is a very insidious disease and as it does not markedly affect the health of the individual cow, its presence may not be recognized until the infection has extended throughout the herd.

"Efforts have been made to discover some medicinal agent which would cure contagious abortion of cows and attempts have also been made to produce a serum, but this work is still in the



## DEMONSTRATIONS ON RECLAMATION PROJECTS.

## Treatment of Contagious Abortion in Cattle (continued)

experimental stage and no reliable curative agent has yet been discovered. Our main reliance must still be placed upon the careful and repeated disinfection of premises and of animals, together with the separation of healthy from diseased animals.

"Directions are inclosed which indicate the method employed in disinfecting stables. In addition, the yards should be cleaned by removing all litter and manure and disinfected by sprinkling liberally with a solution of copper sulphate, 5 oz. to a gallon of water. Milking stools and all other implements should also be thoroughly disinfected.

"The disinfection of animals is performed as follows: To prevent the bull from carrying the infection from a diseased cow to a healthy one, first clip the tuft of long hair from the opening of the sheath, then disinfect the penis and sheath with a solution of 1/2 per cent of liquor cresolis compositus, lysol, or trikresol, or 1 per cent creolin or carbolic acid, or 1 to 1000 potassium permanganate in warm water. The only apparatus necessary is a soft rubber tube with a large funnel attached to one end, or an ordinary fountain syringe and tube would serve the purpose. The tube should be inserted into the sheath and the foreskin held with the hand to prevent the immediate escape of the fluid. Elevate the funnel as high as possible, and pour in the fluid until the preputial sack is filled. In addition to this, the hair of the belly and inner sides of the thigh should be sponged with the antiseptic. This disinfection should invariably precede and follow every service.

"An aborting cow should receive immediate attention, and the animal should be removed to separate quarters where she can receive appropriate treatment. The fetus, membranes, and discharges are particularly dangerous and should be gathered up and destroyed immediately by burning or burial in some safe place, and this followed by thoroughly disinfecting the stall. The uterus should be irrigated daily with one of the antiseptics mentioned for the bull, using the same apparatus, and irrigation should be continued until discharge ceases. In addition, the external genitals, root of tail, escutcheon, etc., should be sponged daily with a solution twice as strong as that used for irrigation, and this latter treatment should be given the non-aborters as well.



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## DEMONSTRATIONS ON RECLAMATION PROJECTS.

## Treatment of Contagious Abortion in Cattle (continued)

Should the preliminary symptoms of abortion be detected, the animal should be removed from the herd and treated as above.

"After abortion, breeding should not again be attempted within two months, or until the discharge shall have ceased, as the uterus would not be normal and the animal would either not conceive or would abort again in a short time.

"Great care should be used in purchasing cattle, and cows not known to be free from the disease should be kept in separate quarters until this point is determined. If a herd bull is not kept, then great care should be exercised to know that the animal used is free of disease and to see that he is properly treated both before and after service.

"Whenever it becomes necessary to separate diseased and healthy animals, it is especially important that different attendants and utensils be provided for the two groups.

"It is manifestly impossible to go into details within the scope of a short article, and it is therefore suggested that a competent veterinarian be employed to supervise disinfection of premises and instruct you in the methods of treatment.

Very truly yours,

Chief, Pathological Division."

Enclosed with the circular letter there was a statement regarding disinfection of the premises. This statement is quoted below:

"Disinfection of Premises.

"In the eradication of tuberculosis or other communicable disease the thorough disinfection of premises is essential. This may be satisfactorily accomplished by carrying out the following directions:

"1. Sweep ceilings, side walls, stall partitions, floors, and other surfaces until free from cobwebs and dust.

"2. Remove all accumulations of filth by scraping, and if wood work has become decayed, porous, or absorbent, it should be removed, burned, and replaced with new material.



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## DEMONSTRATIONS ON RECLAMATION PROJECTS.

## Treatment of Contagious Abortion in Cattle (continued)

"3. If floor is of earth, remove four inches from the surface, and in places where it shows staining with urine a sufficient depth should be replaced to expose fresh earth. All earth removed should be replaced with earth from an uncontaminated source, or a new floor of concrete may be laid, which is very durable and easily cleaned.

"4. All refuse and material from stable and barnyard should be removed to a place not accessible to cattle or hogs. The manure should be spread on fields and turned under, while the wood should be burned.

"5. The entire interior of the stable, especially the feeding troughs and drains, should be saturated with a disinfectant, as liquor cresolis compositus (U.S.P.), or carbolic acid, 6 ozs. to every gallon of water in each case. After this has dried, the stalls, walls, and ceilings may be covered with whitewash (lime wash), to each gallon of which should be added 4 ounces of chloride of lime.

"The best method of applying the disinfectant and the lime wash is by means of a strong spray pump, such as those used by orchardists.

"This method is efficient in disinfection against most of the contagious and infectious disease of animals, and should be applied immediately following any outbreak, and, as a matter of precaution, it may be used once or twice yearly.

"6. It is important that arrangements be made to admit a plentiful supply of sunlight and fresh air by providing an ample number of windows, thereby eliminating dampness, stuffiness, bad odor, and other insanitary conditions. Good drainage is also very necessary.

"If the use of liquor cresolis compositus, carbolic acid, or other coal-tar products is inadmissible because of the readiness with which their odor is imparted to milk and other dairy products, bichlorid of mercury may be used in proportion of 1 to 800 or 1 pound of bichlorid to 100 gallons of water. However, all portions of the stable soiled with manure should first be thoroughly scraped and cleaned, as the albumin contained in manure would otherwise greatly diminish the disinfecting power of the bichlorid. Disin-



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## DEMONSTRATIONS ON RECLAMATION PROJECTS.

## Treatment of Contagious Abortion in Cattle (continued)

fection with this material should be supervised by a veterinarian or other person trained in the handling of poisonous drugs and chemicals, as the bichlorid of mercury is a powerful corrosive poison. The mangers and feed boxes, after drying following spraying with this material, should be washed out with hot water, as cattle are especially susceptible to mercurial poisoning. The bichlorid solution should be applied by means of a spray pump, as recommended for the liquor cresolis compositus."

## FIELD NOTES.

## Minidoka.

For the purpose of locating pure bred Shorthorn cattle and feeder steers for Project farmers, a trip was taken through the Idaho Falls, Shelley and Blackfoot country during the week ending September 18. Most of the trip was made with Mr. C. E. Johnson of the Dairy Division.

Milking machines in use at Idaho Falls and Blackfoot, installed a year ago are still very satisfactory. Only the Sharples machine is used in this section. Another make of machine, installed in sections nearby, is giving satisfaction in some cases and is being discarded in others. Because of the lack of time it was not possible to learn the real reasons, although from the reports it appears that it is because the machine is not adjustable, but milks all cows alike.

Throughout the West is much interest as to the value of alfalfa hay as a sole ration for dairy cows. Numerous farm tests have been made, all of which are probably of too short duration. If the tests are followed longer opposite results are usually obtained. Two field illustrations are here given.

The Fairfield Dairy of Idaho Falls with 44 cows of all breeds - a "pick up" herd - has been giving an average of 1332 pounds of milk a day all summer. By the end of July the pasture became very poor so that it was necessary to put the herd on a hay ration. Because of the shortage of water, the pasture was not irrigated so is not to be considered as a part of the ration. At this time



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## DEMONSTRATIONS ON RECLAMATION PROJECTS.

Field Notes.

## Minidoka (continued)

the cattle were in good condition. They were fed alfalfa hay in racks. The milk flow decreased but slightly, the average daily production being about 1280 pounds. In four weeks time the herd still held up. In the next three weeks, however, the decrease in the flow of milk was 33%. This is a city milk dairy and the lactation periods of the different cows are such that this is not a factor. The cows now are very thin and show the effect of the straight alfalfa feeding. It is believed that the first results came from the stored fat of the body. From now on the cows will be fed grain and beets with their ration.

Mr. Johnson of the U. S. Dairy Division in cooperation with the University of Idaho and assigned to the Twin Falls Tract obtained the following figures from a demonstration with a herd of 56 cows, belonging to Mr. J. H. Gott, of Twin Falls.

	Hay Tons	Silage Tons	Grain Cwt.	Hay \$5--Ton	Silage \$4-Ton	Grain \$1.50-cwt
November.....	33	----	----	\$168	----	----
December 20-						
March 1.....	38	29.4	115.5	\$190	\$ 117.60	\$ 151.25
March.....	25	13.0	----	\$125	\$ 52.00	----
April .....	30	12.6	----	\$150	\$ 50.40	----

	Total cost feed	Cost per day	Cost per head per day	Total lbs milk	Cost 100 lbs milk
November.....	\$ 168.00	\$ 5.60	\$ .100	19940	84¢
December 20-					
March 1.....	\$ 458.85	\$ 6.65	\$ .117	55060	83¢
March.....	\$ 177.00	\$ 5.71	\$ .102	23547	75¢
April.....	\$ 190.40	\$ 6.35	\$ .113	19489	97¢

In commenting on these results Mr. Johnson says:- "From December 20th to February 28th each animal consumed per day, 19 lbs. of hay, 15 lbs. silage and 3-1/4 lbs. grain. On March 1st



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DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

## MiniLoak (continued)

the grain was taken away and hay and silage constituted the sole ration. From the first of the month to it's close the consumption of hay increased from 19 to 29 pounds per day. The amount of silage remained constant throughout. In April the consumption of hay amounted to 35 pounds per cow per day. The November feed record is only approximate and is inserted for comparison.

"Maintenance and production were cheapest during March or the month following the grain feeding period. This can be explained on the basis that the effect of the previous grain feeding had a beneficial effect in this period because in the succeeding month, April, the cost of production was greater than at any other time. These figures may explain why many claim that better results are obtained after the grain is removed than when it is fed."

A demonstration carried on in the field in Idaho three years ago gave practically the same results.

## Shoshone.

During the week ending September 18, thirteen farms were visited, and twenty-eight samples of milk were tested for four farmers.

The milk production on the project is very low at present, as at this time of year many cows are dry. The creamery still has a much greater demand for butter than it can supply. For the first two weeks in September the Cooperative creamery paid 24¢ per pound for butter fat.

The Yellowstone creamery of Billings has established an agency at Powell. It has attempted this several times previously, but having been discouraged by the local business men, an agency had not been placed at Powell before. Agencies had been placed at Ralston and Garland, which are small towns on the project on each side of Powell. Recently the manager came to Powell and informed its poultry agent that he must take the cream agency also or another agent would be stationed here to handle the poultry and cream business. Since there are farmers tributary to Powell who are selling cream in Garland or Ralston and doing their trading there, and who it is thought would trade in Powell if they could



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## DEMONSTRATIONS ON RECLAMATION PROJECTS.

Field Notes.

## Shoshone (continued)

sell their cream here C.O.D., the poultry agent justified himself in starting a cream station here in opposition to the cooperative creamery. The agency may injure the cooperative creamery, because the creamery is running now on about as small amount of business as will justify its operation. If its cream receipts decrease much it will be difficult to meet expenses.

The creamery is laboring under the disadvantages that it is not so convenient to the farmers as is the agency, and that it receives cream only three days in the week and then only before 11 A.M., and it pays only semi-monthly. There probably will be a tendency for those who are not interested in the creamery to sell to the agency.

Three farmers put up corn silage this week. While the corn was not mature enough to make the best silage, the farmers feared to leave it longer because a slight frost had killed some of the leaves and another frost was feared. There is only one cutter on the project to do the cutting for all of the men, so it is not possible to wait and put up silage immediately after the frost. Assistance was given to the first man who filled.

A representative of the agricultural extension department of the International Harvester Company called regarding a live stock demonstration car which is to be run by that company, the Burlington R.R. and the State Agricultural College.

The first four days of the week ending September 25, were given almost wholly to the project fair. Registered males and grade females of all kinds of stock were eligible to entry. Only in dairy stock were breeds considered and in that only those above a year old. Not many classes were offered, but almost every registered male and grade female on the project was eligible to entry. In all kinds of stock and in most of the other departments, the project fair was said to be better than the County fair at Cody.

There were eighteen departments. The judging was done by local judges. One hundred and fifty-nine prizes were awarded besides the ribbons.

Now that the threshing season is on, many farmers are beginning to feed grain to hogs. Several farmers are wanting to feed beet sugar syrup which is bought from the Billings Sugar Company. An attempt is being made to get enough farmers interested to ship in a carload cooperatively.



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DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

## Tieton

The week ending October 2 was devoted entirely to a trip to the coast dairy farms and to office work. Several dairy farms were visited in the vicinities of Puyallup, Tacoma and Seattle. It was found that two-year-old grade Holstein heifers, bred, can be secured for from \$55 to \$65 a head. There is a fairly ample supply of such animals of fair breeding and good individuality. The lessened demand for condensed milk appears to have resulted in a fall in prices for dairy stock. A few good cattle were also located in the Ellensburg valley.

Field Trip by Messrs. Scofield and Farrell.

Mr. Scofield and Mr. Farrell expect to leave Washington October 13 for a five weeks trip to the Southwest. Their itinerary includes the Lawton, Hondo, Carlsbad, Rio Grande and Yuma reclamation projects, the Imperial Valley, California, and San Antonio, Texas.



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## DEMONSTRATIONS ON RECLAMATION PROJECTS.

## FIELD NOTES.

## North Platte.

During the week ending September 4, the hogs on two farms were weighed up for hog feeding demonstrations. On Monday the 94 spring shoats in Mr. Will Evans' feeding demonstration, were weighed up. This was the ending of the first period of the feeding test. The results of this demonstration are given in the August monthly report. The feeding test will be continued about five weeks longer.

Tuesday the second weights were taken on the two feeding tests carried on with thirty sows on the farm of Mr. Fred Young. The results of these feeding tests are also given in the August monthly report.

A greater part of three days of the week were spent attending the Scotts Bluff County Fair at Mitchell. The fair was a success from both a financial and agricultural exhibit standpoint. The swine, sheep and horse exhibits were good. Three herds of dairy cattle were shown, but no beef cattle. The largest exhibit in any one class of livestock was in the swine department. There were 21 exhibitors, with approximately 85 head of hogs, all of good quality. Only two breeds of hogs were represented in the exhibits, Duroc-Jerseys and Poland Chinas. The swine exhibit was over three times larger than in 1914. All pens were filled and it was necessary to make new pens for the overflow.

One attractive feature of the swine exhibit was the boys pig club exhibit. Twelve boys were represented in this exhibit, with a total of 20 pigs, both pure bred and grades. All Pig Club exhibits were grouped together in one section of the swine exhibit. Each boy's name appeared on the pen in which his pigs or pig were kept, and a larger sign, "Boys Pig Club Exhibit" extended along the pens. All but three of the boys received at least one prize. The largest amount of prize money won by any one boy, was won by Warren Douglass, \$12.50, who won third on grade pig, and first on group of three pigs.

Two cases of hog cholera were found, one near where an outbreak occurred about two weeks ago, and another in a locality where there has been no cholera since last summer. The first herd, in which there were 10 hogs, was vaccinated. The second herd will be treated next week.

On Saturday another car load of shoats was shipped to the State Serum Plant, by the Farmers' Cooperative Commercial Co., at Morrill, Nebraska. The company received 10¢ per cwt for handling the shoats. The farmers received \$7.50 cwt. net.



16 October, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

## North Platte (continued)

During the week ending September 11, Mr. A. C. Fitts' herd of 37 hogs were vaccinated. Cholera was found in this herd last week, but was unable to vaccinate the herd until the 5th. Twenty-three high temperatures were found in the herd at the time of vaccination. The herd was in rather poor physical condition, when vaccinated and there will probably be a considerable loss.

On Monday a trip was made to Lincoln to confer with members of the Live Stock Sanitary Board, and various persons connected with the State University. Two days were spent at the Lincoln fair and a half of one day at the Stock Yards in Omaha. Returned to Mitchell Friday P. M.

On Saturday the shoats in Mr. Lambertson's feeding demonstration were weighed up again. This is the conclusion of the second period of the demonstration. The test will be continued until a larger part of the shoats are marketed as fat hogs.

The results of the second period are given below. The shoats used were pure bred Poland Chinas.

Lambertson Hog Feeding Test, 1915, Spring Pigs.

Second Period.

Ration: Corn, ground barley and alfalfa pasture.

Date of initial weighing.....	July 17
Date of final weighing.....	Sep. 11
Total days between weighing periods.....	56
Number of shoats in feeding test.....	39
Total initial weight, pounds.....	2283
Average initial weight, pounds.....	58.8
Total final weight, pounds.....	3777
Average final weight, pounds.....	97
Total gain, pounds.....	1494
Average daily gain, pounds.....	.68
Value of gains at 7¢ per pounds.....	\$ 104.58
Corn fed, pounds.....	2939
Ground barley fed, pounds.....	1600
Total grain fed, pounds.....	4539
Pounds of grain per pound of gain.....	3.03
Cost of corn fed, 2939 pounds @ \$1.42 cwt.....	\$ 41.66
Cost of ground barley fed, 1600 pounds @ \$1 cwt.....	\$ 16.00
Total value of grain fed.....	\$ 56.66
Cost of grain fed per 100# gain.....	\$ 3.79
Value of gains less cost of grain fed.....	\$ 47.92
Hogs paid per acre of alfalfa pasture, 5 acres.....	\$ 9.58
Grain ration daily.....	2.69%
Average weight of hogs per acre of alfalfa, pounds.....	605



16 October, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

## North Platte (continued)

The first two days of the week ending September 18 were spent with Mr. Farrell looking over the work on the project, visiting the experiment farm and planning future work.

On the morning of the 12th, a call was received from Fred Young to come out and post one of his gilts that had died since returning from the county fair. Cholera was feared, though no cholera had so far resulted from hogs being taken to the fair. The post mortem examination showed no indications of cholera, but the trouble proved to be intense irritation of the large bowels caused by impaction brought about by eating an excess of sand and dirt. Evidently Mr. Young's hogs were not getting sufficient mineral matter, though a limited amount of some mineral stock was being fed and the hogs had access to good alfalfa pasture. The coal, air slacked lime, salt, sulphur and copperas mixture was recommended and will be used by Mr. Young.

On Wednesday cholera was found on the farm of Paul Roberts near Bayard. This is the second outbreak of cholera in this locality this summer. Mr. Roberts herd was divided into two lots, about 60 rods apart. Several sick hogs were noticed in one bunch, but none seemed affected in the second lot. Both lots were vaccinated.

Arrangements were made for conducting a "hogging down" corn test with Mr. Youngheim. Mr. Youngheim has used this method of gathering his corn for a number of years and approved of the method. Thirty-eight, 11 months old hogs will be used in this demonstration. A few rows of stock beets will be included in the corn field.

Monday morning of the week ending September 25, the third weighings were taken in Mr. McKinstry's hog feeding demonstration. This weighing concluded the second period of the feeding test. In the first period, corn and alfalfa pasture made up the ration. During the second period the shoats received ground barley and good alfalfa pasture. The shoats were fed about all the ground barley they would eat up clean or 4 pounds per day which made a 3.68% grain ration. The shoats made good and fairly economical gains. The pasture used was considerably larger than the shoats could keep down and it was necessary to mow the alfalfa and make hay of it. No attempt has been made to determine what the shoats paid for the alfalfa eaten. Mr. McKinstry is much pleased with his demonstration.



16 October, 1915.

DEMONSTRATION ON RECLAMATION PROJECTS.  
Field Notes.

## North Platte (continued)

The round trip made to Mr. McKinstry's farm in connection with weighing his 64 shoats was made in one hour and 35 minutes. His farm is 2-1/2 miles out from Mitchell.

The figures of the feeding test are given below:

McKinstry Hog Feeding Test, 1915.

Pure Bred Duroc-Jersey Spring Pigs - 2nd Period.

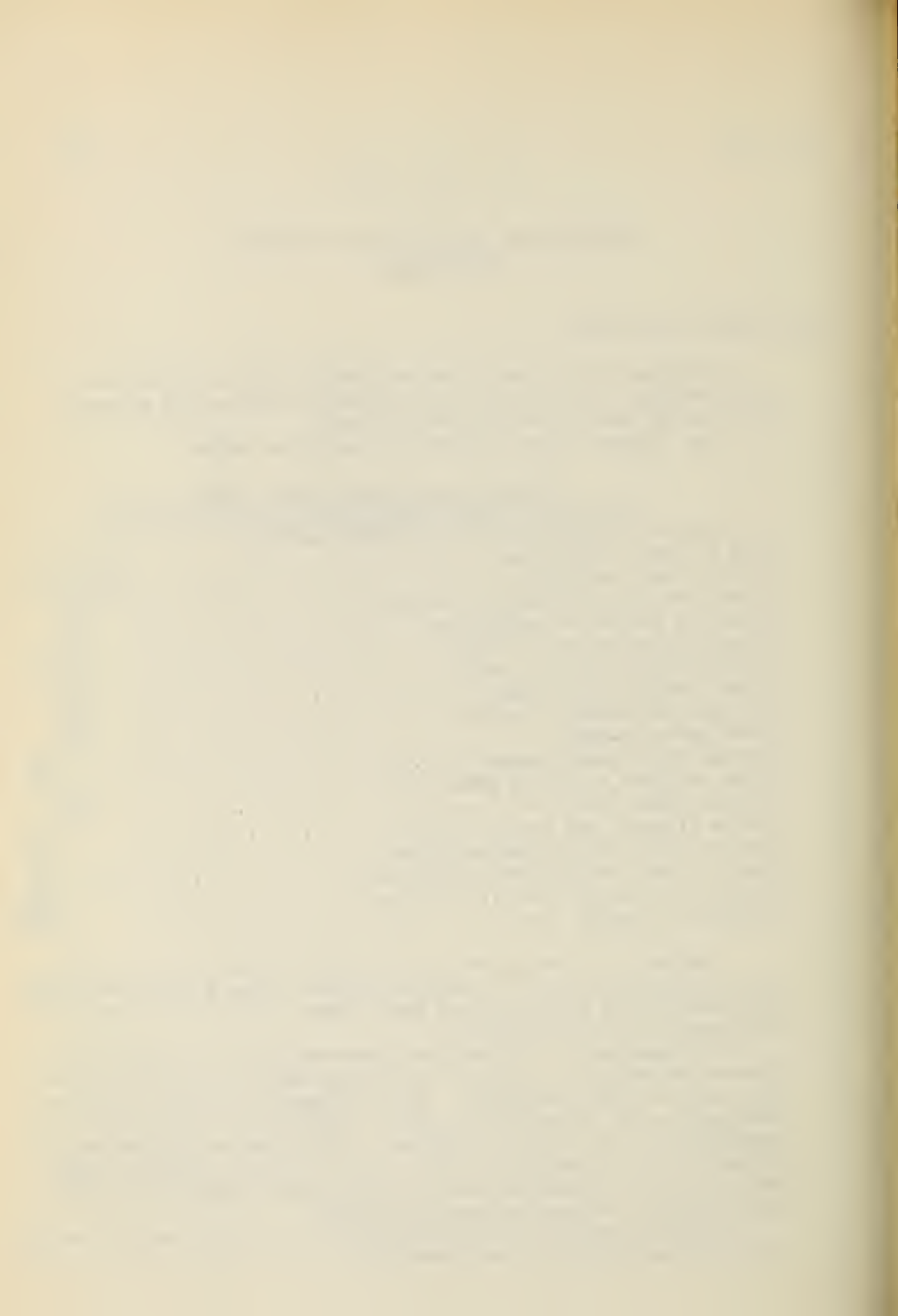
Ration: Ground barley and alfalfa pasture.

Date of initial weighing.....	Aug. 19
Date of final weighing.....	Sep. 20
Total days between weighing periods.....	32
Number of shoats in feeding test.....	64
Total initial weight, pounds.....	5711
Average initial weight, pounds.....	89.2
Total final weight, pounds.....	8197
Average final weight, pounds.....	128
Total gain, pounds.....	2486
Average daily gain, pounds.....	1.21
Value of gains at 7¢ per pound gain .....	\$ 154.02
Ground barley fed.....	8192
Pounds of grain per pound of gain.....	2.63
Cost of ground barley fed at \$1 cwt.....	\$ 81.92
Cost of grain fed per 100 pounds gain.....	\$ 3.30
Value of gains less cost of grain.....	\$ 72.10
Grain ration daily.....	3.68%

Tuesday P. M. two farms of E. W. Browns' were visited for the purpose of inspecting a car load of shoats for the State Serum Plant. Mr. Brown raises only pure bred Duroc-Jersey hogs and has been very successful in the hog business.

On Wednesday A. M. a call was answered to the farm of Mr. McCarter near Bayard. Cholera was found in his herd of 225 hogs and they were at once vaccinated. Quite a number of visibly sick hogs were noticed in the herd. All but a very few were vaccinated. Considerable loss is to be expected. On account of the non-arrival of serum it was necessary to delay a part of the vaccination until the third day. This outbreak was only a short distance from where an outbreak of cholera occurred last week.

Mr. McCarter is a strong believer in the double treatment having had good success with it two years ago.



16 October, 1915.

DEMONSTRATION SON RECLAMATION PROJECTS.  
Field Notes.

## North Platte (continued)

Thursday preliminary arrangements were made with L. R. Latham for conducting a "hogging down" corn feeding test. About 100 one year old Poland China hogs will be used in this test.

Up to date only two very light frosts have occurred and they did not materially injure growing crops. While the corn crop on the project is late, the prospects for a good crop are encouraging.

There seems to be considerable tendency among the farmers on the project to commence feeding new corn very green, while in the milk stage. Recently a farm was visited where the hogs had been turned into the corn field when there was still a large percent of the ears in the milk stage. In the case mentioned it is thought that about 25% of the feeding value of the corn was lost.

During the week ending October 2, one hog cholera suspect was investigated but no cholera found.

Two hog feeding demonstrations were started and one planned during the week. The first one was started Thursday at which time 38 hogs, average weight, 152.1 pounds were weighed for a "hogging down" corn test. The second test is on the farm of Garrett Bros. In this test 137 hogs, average weight, 139.2 pounds will be fattened out in a dry lot, receiving a ration of ground barley, corn and stock beets. A third demonstration was planned for Mr. Radis' farm. In this test about 60, 150 pounds hogs will be fattened out, receiving ground barley and corn in a dry lot. This bunch is to be weighed next week.

The Garrett Bros. bunch of hogs is the largest bunch of large hogs ever weighed on the steelyards weighing apparatus. The entire 137 head were weighed without a single mishap. Time taken to weigh bunch, two hours. Three and four of these hogs were weighed at a time. The largest load weighed at any one time was 800 pounds gross.

Up to the present time approximately 1050 hogs have been weighed upon the steelyards weighing apparatus and so far it has given splendid satisfaction.

The dimensions of the weighing portable crate are as follows: length, 5 feet, width, 29 inches, height, 28 inches. The bottom is made of one inch boards. The sides and top are made of regular ceiling lumber with inch pieces for posts. Weight. 155 pounds.

So far no very severe frosts have occurred, and the present outlook is for a good corn crop on the project as a whole.



16 October, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

## Umatilla.

Mr. Paul S. Jones, who began demonstration work in irrigation and crop production on the Umatilla project on September 1, reports that during the month visits were made to about fifty farms in different parts of the project. Calls for assistance are continuously coming in. Practically all the farmers visited have expressed the desire to cooperate in one line or another.

The new settlers are asking for assistance in planning their irrigation systems and many of the older settlers who are getting new land into cultivation are requesting assistance of the same kind. Some of the older settlers are planning to rearrange their present irrigation systems. A few of them have expressed the desire to plow up their present unsatisfactory stands of alfalfa, if necessary and do the grading that should have been done before planting. The preponderance of requests are for assistance in getting virgin land prepared for irrigation and seeding. The attention of the new settlers is being called to the fact that time, money, and labor may be saved through a proper preparation of the soil and proper arrangement of the irrigation system before the crops are planted.

A number of requests have been received for help during the fall and winter in establishing farm drainage systems. The water table is high in places and considerable damage is resulting from the rise of alkali. This is beginning to be a serious matter in several localities, notably in the fourth unit, where, at present, there seems to be decided lack of cooperation among the water users in connection with the control of waste water.

The problems of diversified farming seem to interest the older settlers chiefly. It is generally appreciated that it is necessary to maintain a good stand of alfalfa on the soil for a number of years to render it productive for other crops. The great majority of farmers prefer to feed their alfalfa on the farms and to use the manure for fertilizer. A number are becoming interested in barley hay to feed with alfalfa and some are encouraged over the idea of hogging-off barley and Canada field peas planted together.

Several farmers have been successful this year with potatoes. On a small piece of sandy land one farmer harvested potatoes at the rate of about 300 sacks to the acre. Early varieties are preferred because they usually have a better market. Corn growing is meeting with considerable success.



16 October, 1915.

## DEMONSTRATIONS ON RECLAMATION PROJECTS.

Field Notes.

Boise.

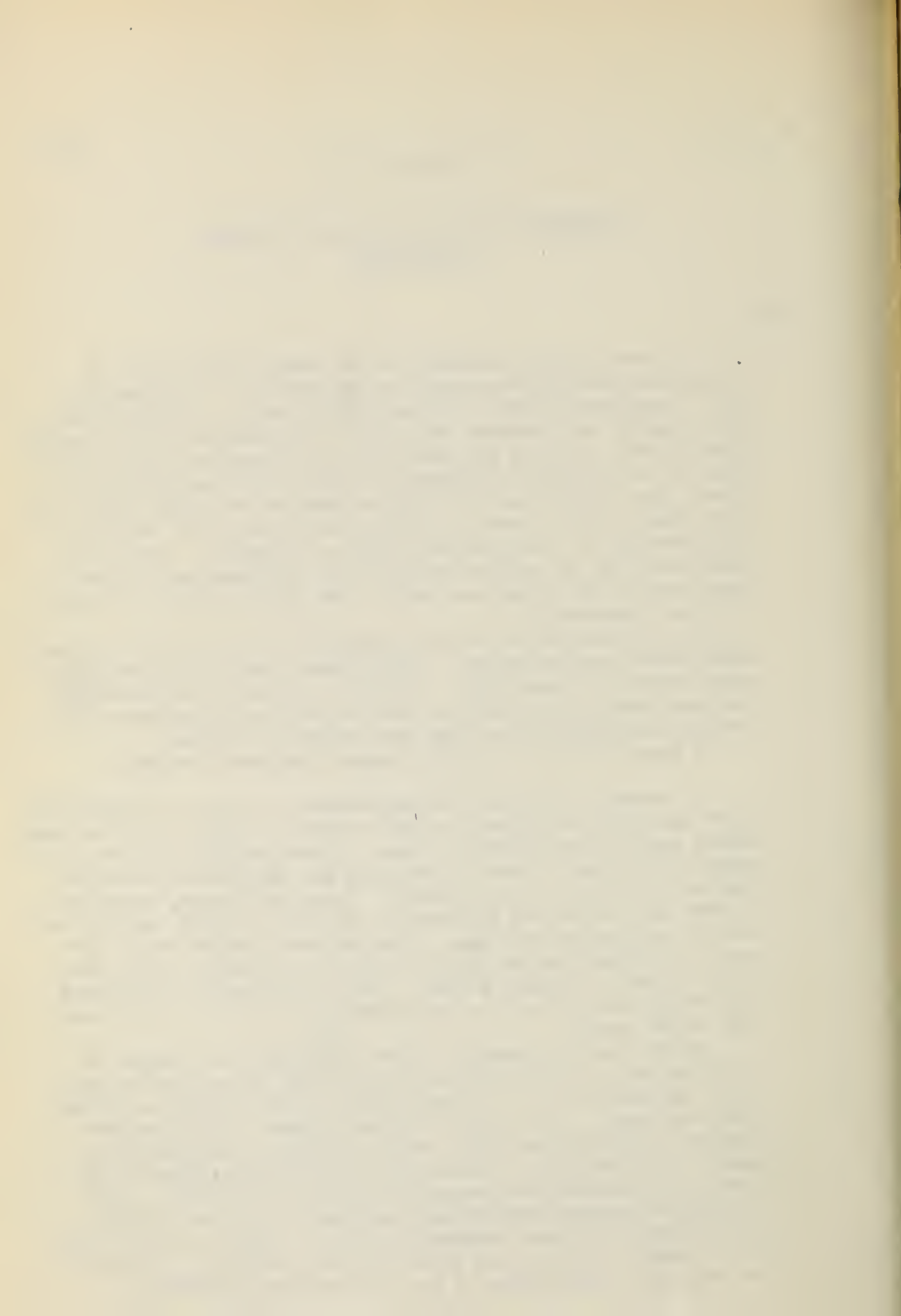
The week ending September 25, has been spent largely in attendance at local fairs and judging exhibits. The opening day of the Nampa Harvest Festival, which lasted for three days, was attended, and Thursday was spent at the Ontario fair in which Boise Project settlers are interested. Friday and Saturday were spent at the exhibits at Homedale, Central Cove and Fargo with County Agent McCall, and a visit was made to the Sunny Slope fair. These local events, except at Nampa and Ontario, were held as preliminaries to the Idaho State Fair at Caldwell. They have been encouraged as much as possible, for the good they do the localities in which they are held. The exhibits at all of them were very creditable.

Six herds of hogs have been inspected this week, three being suspected of having cholera. The disease was found in one herd among a bunch of young pigs. These were given serum treatment, the owner choosing to take the risk of leaving the remainder of the herd untreated as the pigs were somewhat isolated.

A number of calls on miscellaneous business were made.

On Sunday, of the week ending October 2, a trip was made, with three men from the project, to see a bunch of cattle which had been driven down from the range for sale. These cattle consisted of a fairly good grade of cows of Shorthorn and Hereford breeding and some very good calves and heifers. The entire bunch, numbering 30 cows with calves, 48 dry cows and 17 long yearling heifers, was sold to project men that day. The dry cows brought \$57.50 per head, the heifers \$42.50, and the cows with calves, some of the latter almost yearlings, \$72.50. Prices and quality considered, this stuff was a better buy than anything seen during the recent trip to the coast.

On Saturday, in company with Mr. Lindgren, who stopped to visit the Boise project while enroute to the Uncompahgre project, a call was made on L. L. Youngs of Nampa where cholera was found among his hogs. Mr. Youngs's hogs had cholera during June and July and everything was given serum treatment, following which nearly sixty head died. Hogs showing high temperatures at the time of vaccination were marked with a ring in one ear. Some of these are among those showing symptoms of cholera at this time although they have apparently been all right up to this time. One of these was posted and showed cholera lesions. The pigs now sick were sucking pigs at the time of first treatment.



16 October, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

## Boise (continued)

Mr. Young says he has disinfected very thoroughly, but the premises were reinfected, probably, by pigs which had had chronic cases of cholera and had apparently recovered. Mr. McCall revaccinated the herd Saturday P.M. as I had agreed to judge exhibits at the Kuna fair that afternoon. This was the first Kuna fair, and was quite creditable. Attendance and interest were exceptional. A short meeting with talks by University of Idaho men as well as by local men was held in connection with the fair and was well attended.

Except for the work noted above and for a trip to Deer Flat on Monday to judge a school fair, the entire week was spent at the Idaho State Fair, at Caldwell, where assistance was given in the livestock departments and two milking contests. The livestock exhibits were good. Twelve cows were entered in the milking contest. Six were registered Holstein-Friesians, two were registered Jerseys and four were grades. A Holstein cow belonging to H. R. Boomur of New Plymouth won the highest number of points although a Jersey was highest in actual production, making 87.1 pounds of milk and 3.41 pounds of butter fat in the 48 hours.

A Ford Runabout was received the last of the preceding week and all travel this week has been performed with it.

## Minidoka.

Only three calls for immediate visits were received during the week ending September 25. This was fortunate, as the time was given to pay the final visits to the Boys' and Girls' Club and give the final instructions for the essays, reports and exhibits. This is somewhat difficult as no instructions are given as to how the results shall be calculated but each boy is supposed to put his own value upon the pasture, the feed given and the rental of the grounds. For this immediate section uniform systems are being used.

Two days were spent at the Minicassia Fair at Burley where a Department of Agriculture booth was maintained for the purpose of meeting those interested in the work. It was found that this was a good plan. At almost all times, except when the special entertainment features were on, there were several visitors. A small exhibit of charts, pictures and a hog cholera display was made in this booth. Unfortunately, most of the attention of the management of the fair had been given to a "Wild West" entertainment so that the agricultural part of the fair had been somewhat neglected.



16 October, 1915.

## DEMONSTRATIONS ON RECLAMATION PROJECTS.

Field Notes.

## Minidoka (continued)

The first Cow-Testing Association in Idaho is now organized on the Twin Falls Tract. Work will begin on October first. The herds in this section are mostly Holsteins, grades and pure breds. Most are very good. So far, all the surplus has been bought in the immediate neighborhood. The center of the work is around Buhl and Filer.

The entire week ending October 2, except Saturday, was spent in connection with the Minidoka County Fair at Rupert.

Unlike the Minicassia Fair at Burley, an effort had been made to have an agricultural fair that would be of value to the people of the project both from an agricultural and a live stock view. The afternoon sports were contests between teams of draft horses, saddle and driving horses, the schools and local athletic and base ball and football teams. The fair was pronounced successful in every way.

An educational booth of pictures, charts, hog cholera control work, a system of testing and weighing the milk in the dairy and details of silo work was conducted in cooperation with the Bureau of Animal Industry office at Twin Falls. A dairy cow contest was conducted during the fair. Judging demonstrations and explanations of the use of anti-hog-cholera serum were given to large and interested audiences.

In the Club work the results were as follows:

	<u>First</u>	<u>Second</u>	<u>Third</u>
Pig Club.....	Pioneer	Heyburn	Rupert
Canning Club.....	Pioneer	Rupert	Heyburn
Sewing Club.....	Heyburn	Rupert	Pioneer
Garden Club.....	Pioneer	Rupert	Heyburn
Corn Club.....	Rupert	-----	-----

Two registered Duroc-Jersey pigs were given to the Boys' Pig Club in addition to many special and cash prizes. The value of the cash and special prizes amounted to \$40.25. The Club winning the boar must organize a small breeders' association and handle the hog cooperatively. The boar was donated by Mr. George Ballard of Rupert and was the choice of his lot. Both the sire and dam are noted show winners of the Northwest. At the time of the fair \$25 was considered a very reasonable price. The sow was given by



16 October, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

## Minidoka (continued)

Mr. D. C. McWaters of the Overbrook Farms of Jerome and goes as first prize to the boy having the highest rating in all departments. She is out of Grace of Overbrook, a winner of Sweepstake prizes for three years at the Idaho State Fair, and Overbrook Junbo, the best hord boar. Individuals no better than the one given here have been selected out of this herd at from \$50 to \$75. In the rating, both pigs, by a general understanding, were placed at \$25 each. Both pure breeds were won by the Pioneer Pig Club.

In September the final work was done with the Boys' and Girls' Clubs. As a whole this work has been fairly successful and very popular. In only four districts has the work been attempted. This year's experience has shown that with our other work this is enough. In the Pioneer District, a centralized district in the west end of the project, the club work was the most successful. In both the Boys' and Girls' clubs individual, special, and club prizes amounting to \$97.25 were won by the boys and girls of this district. The good results are due largely to the interest of the parents and teachers in the work.

The next best clubs were at Heyburn. Considering the membership, both Rupert and Burley made a poor showing. This is due partly to the fact that the agricultural instructor at Burley did not think that he has the time to give assistance or encouragement to the members of his clubs. At Rupert almost the entire corps of teachers changed this year, leaving the club members without their direct club advisors.

The results obtained by the boys in the pig clubs were very good. Pork was produced at from 2.9¢ to 4.6¢ a pound. The essays and records have been sent to the State Extension office at Boise, but will be secured later and published in the papers of the project.

Five calls to investigate sickness in hogs were the only ones for immediate visits received this week. They were turned over to the Department at Twin Falls. Three of these were made on Saturday by Dr. Davis who came up for this purpose. The other two were made by Dr. Henderson while attending the fair. No cholera was found. One case at Burley, visited by Dr. Davis, was found to be infectious sore mouth. Four pigs are infected. An experiment with the hydrochloric acid treatment will be made on those not far advanced. The others were killed and burned. A case treated at Acequia in July by the method explained at the Salt Lake conference resulted in saving two out of five. However, this case was far



16 October, 1915.

## DEMONSTRATIONS ON RECLAMATION PROJECTS.

Field Notes.

## Minidoka (continued)

advanced. The last case to be treated by the hydrochloric acid method, is for experimental purposes and the results will be checked up later.

## Huntley.

Most of the week ending October 2 was spent in the office on account of rain and heavy roads. Seven farmers called at the office during the week.

Two suspected cases of hog cholera were investigated. In one case post mortem showed some indications of cholera but the animal had been dead too long for positive diagnosis. In the other case no cholera lesions could be found.

On Saturday a trip was made to Billings for the purpose of conferring with Mr. Lawson, regarding the C.B.&Q. "Live Stock and Better Farming Special" which is scheduled to stop at Huntley on October 6th.

## Tieton.

Report for week ending October 9.

Previous mention was made of a cow testing association under process of organization last spring in the Yakima Valley. Mr. Lashbrook of the U. S. Dairy Division was called away before a tester had actually begun work for the association. Due apparently to lack of "push" on the part of the farmers with whom the proposition was left, the organization stopped where Mr. Lashbrook left it. Mr. Lashbrook and Mr. Meyer, also of the U. S. Dairy Division, visited the territory last week and found that the interest in the association has declined since the organization was left incomplete last spring. These men expect to return in a month or so to see what can be done in the way of reorganization.

Mr. Lewis, who has been "hogging off" Canadian field peas in his five-year-old apple orchard, has obtained very satisfactory results. (See table following) The pigs which were in this demonstration are now on alfalfa pasture and are being fed corn. Later they will be used to "hog off" several acres of corn. Figures for these operations will be available later.



16 October, 1915.

## DEMONSTRATIONS ON RECLAMATION PROJECTS.

Field Notes.

## Tieton (continued)

The greater part of this week has been spent in bringing the individual records of cows now on test up-to-date. This material will be used in connection with the tests made this month.

Butterfat is still worth 30¢ per pound. The hog market is dull. Very few hogs are being sold and the very best are bringing only 5-1/2 cents. Several outfits are still baling alfalfa on the project but this work is nearly completed. A few crops of first cutting have sold for \$9.50 and \$10.00. The rest goes at \$8 to \$9. Silo filling is practically completed on the project. Reported yields of silage range from eight to eighteen tons per acre. The average will undoubtedly be slightly better than ten.

Stock cattle are being brought off the free range. Most of them are in good condition and it is reported that feed has been good in the reserve this season.

A demonstration in which Canada field peas interplanted in a three-acre orchard were hogged-off was concluded on Mr. Lewis' farm on October 4. On September 2, 67 purebred Duroc-Jersey hogs, farrowed between March 20 and April 30, and averaging 44.9 pounds in weight, were turned into the orchard. They remained there until October 4, a period of 32 days. The peas were fed off in small lots by the use of portable panel fence such as is described in Bulletin 242 of the Wisconsin Experiment Station. The material cost of the panels was 40 cents per rod, delivered. The panels are made of rough six-inch lumber. The orchard is about 30 rods from the water and from the pigs' sleeping quarters. The pigs had been on another lot of peas about two weeks before this demonstration was started. In addition to the peas in the orchard the pigs had access to a small blue grass pasture; but, as this was very dry, the gains from this source are practically negligible. The peas were planted between the tree rows only, so that the area actually in peas was 2.2 acres. The results during the 32-day hogging period are given in the following table:



15 October, 1915.

DEMONSTRATION ON RECLAMATION PROJECTS.  
Field Notes.

## Tieton (continued)

Number of pigs, .....	67
Average initial weight, pounds.....	44.9
Total initial weight, pounds.....	3605.6
Average final weight, pounds.....	66.9
Total final weight, pounds.....	4484.8
Total gain, pounds each.....	22
Total gain, pounds the lot.....	1479.2
Average daily gain, pounds each.....	0.69
Average daily gain, pounds the lot.....	46.3
Value of individual daily gain @ 5-1/2¢ per pound...	3.7¢
Value of daily gain, the lot, @ 5-1/2, per pound....\$	2.54
Value of total gain per head for period, @ 5-1/2¢...\$	1.21
Value of total gain, the lot, for period, @5-1/2¢...\$	81.36
Acres orchard sown to Canadian field peas.....	3
Acres peas in orchard (deducting clean tree rows)...	2.2
Returns per acre (on basis of 3 acres).....\$	27.12
Returns per acre (on basis of 2.2 acres).....\$	36.98

The orchard is planted to apple trees which are about five years old. Only one tree was "barked" and that was injured but slightly and during the first day the pigs were in the orchard.

It is interesting to note, incidentally, that, though the entire orchard was badly affected with rosette before the crop of peas was sown, the disease has entirely disappeared from that part of the orchard where the peas were grown. The other part of the orchard was in alfalfa seeded last spring. This, like the first part, was also badly affected with rosette. The disease has partially disappeared in this part of the orchard, but the effect is not as marked as it is in that part where the peas were grown.



23 October, 1915.

## WESTERN IRRIGATION AGRICULTURE.

## FIELD NOTES.

Yuma.

During the week ending September 25, thirty-eight acres were irrigated. A maximum temperature of 108°, minimum 52° and greatest daily range of 50° was recorded.

Painting of the power house was completed and a start made on the farm residence house and office. Extra laborers are still retained in hoeing Bermuda grass and weeds from field borders and in orchard and date plantings. All late planted sorghums, also nurseries were cultivated. Fig orchard C-8 to 17 and deciduous orchard B-23 to 32 were cultivated with disc harrow.

April plantings of grain sorghum varieties were harvested from C-26. Alfalfa was harvested from B-18, C-41 to 43, D-17-20 and 24, also Sudan grass for hay production was harvested from plats on E-3 to 6.

The Colorado River at the Yuma Reclamation Service gauge is lower than recorded for many years. The entire flow of the river is being diverted into Imperial Valley ditches by the construction of a temporary earth dam across the river. Below this are many fish collected without deep water which the Indians are catching in large quantities.

During the week ending October 2, temperatures were recorded as follows: Maximum 99°, minimum 46°, greatest daily range 50°.

Miscellaneous hoe work continued, also hoeing of irrigation ditches. Sudan grass from A-3 and 4 was harvested. Bermuda spots in fig orchard were plowed.

The thinning test of Dwarf Milo Maize on D-15 was harvested and stalks cut. Grain sorghums and Broom corn from June plantings on field D-10 were harvested. The greater number of sorghum varieties under test by the Office of Forage Crop Investigation have matured.

A late planting of hemp was made on field E-2.

Garden plats were prepared and planted to winter garden vegetable as follows: Table beets, 3 varieties; Cabbage, 3 varieties; Cauliflower, 4 varieties; Carrots, 2 varieties; Lettuce, 6 varieties; Onions, 9 varieties; Parsnips, 3 varieties; Peas, 7 varieties; Radishes, 5 varieties; Spinach, 2 varieties; Turnips, 3 varieties; and one variety each of Parsley, Swiss Chard, Leek, Collards, Brussels Sprouts, and Kohl-Rabi. Crystal Wax and White Bermuda onion bulbs were also planted for seed production.



23 October, 1915.

WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

Yuma (continued)

Sudan grass being pastured during the season has afforded an excellent pasture, growing well during the hot weather and still is growing well. A division fence was constructed in this pasture, pasturing alternately for periods of two weeks, the grass being irrigated as soon as stock was taken off.

Mangers were built in the new corrals.

During the week ending October 9, record was made of the following temperatures: Maximum 100.5°, minimum 45°, greatest daily range 50°.

Hay was harvested from alfalfa fields C-29; D-21-25 and 27. The alfalfa butterfly, commonly a pest during the summer months in this region has carried through into fall in great abundance doing considerable damage to alfalfa hay crops.

Ground was releveled about corrals and machinery shed. A tin roof was laid on the deck of the farm residence house.

Much cotton on the Yuma Project is picked and ready for the gin. The gin at Somerton, Arizona began operating on the 4th.

The presence of the Salt March Caterpillar has been observed in a number of fields-although only little foliage damage has yet been done.

Truckee-Carson.

During the week ending October 9, a new forge was built in the blacksmith shop.

The corn varieties grown on the farm of Tom Conner's were husked and weighed. Samples of ten ears of each variety were reserved to determine shrinkage and shelling percentage. The work of repainting the farm buildings was begun.

The corn in Plat H-1 was husked. The yield of corn on the cob was at the rate of 1375 pounds per acre. The yield of the dry stover after removing the ears was at the rate of 5360 pounds per acre.

The weeds on the "Y" series were raked and burned.

The onion varieties and fertilizer test with onions grown on the farm of George Burton were harvested and yields determined. Of 4 varieties tried the Ohio Yellow Globe gave the highest yield, 27,700 pounds per acre. This is the variety most commonly grown in this section.



23 October, 1915.

WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

## Truckee-Carson (continued)

In the fertilizer tests potassium sulphate, acid phosphate, ammonium sulphate, and mixture of all three to make a complete fertilizer were used. Increased yields were obtained with the ammonium sulphate, acid phosphate and complete fertilizer. The detailed results are shown in the following table:

Onion Varieties Grown on Farm of George Burton

Variety.	Yield Pounds	No. Rows	Ave. Length Rows	Total Row Length	Yield per 100 ft. row, pounds	Area Acre	Yield per A. pounds
Burton's Yellow Globe....	676.0	10	82	820	82.5	.0262	25850
Prizetaker.....	1057.0	16	83	1328	79.5	.0423	24950
Ohio Yellow Globe.....	1176.5	16	83	1328	88.5	.0423	27770
Red Weathersfield.....	837.5	16	84	1342	62.3	.0428	19530
Burton's Yellow Globe							
Check.....	786.0	10	85	850	92.5	.0271	29000
do Potash.....	905.0	10	85	850	106.5	.0271	33380
do Ammonium sulfate	1029.0	10	86	860	119.5	.0274	37520
do Acid phosphate.	1131.0	10	86	860	131.5	.0274	41300
do Complete.....	1325.0	10	86	860	154.0	.0274	48350
do Check.....	889.0	10	87	870	102.2	.0278	32050

The tomato varieties were caught by a frost which occurred September 14, just when they had begun to ripen rapidly. Had the vines been protected at this time it is probable that the yield would have been more than doubled as the next killing frost did not occur until October 3. The Perfection which was the highest yielding variety in 1914 was also the best variety this year. As a rule the earliest varieties to ripen fruit have been the highest yielding in 1914 and 1915, but judging from the amount of green fruit on the vines, it would seem that the order of yield of the varieties would be considerably changed if the frost were delayed two or three weeks longer, allowing the later varieties to mature a larger portion of their crop



23 October, 1915.

WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

Truckee-Carson (continued)

Tomato Variety Test - 1915.

	Date first picking	Plat A.			Plat B.			Plat A-B		
		Yield	Number of plants	Yield per plant	Yield	Number of plants	Yield per plant	Total	Total number plants	Av. Yld. per plant
Perfection.	8/16	120.25	22	5.6	102.75	37	2.8	223.	59	3.8
Earliana...	16	86.25	27	3.2	86.25	39	2.2	172.75	66	2.6
Acme.....	16	72.75	22	3.3	74.50	36	2.1	147.25	58	2.5
Favorite...	25	69.25	20	3.5	35.50	37	1.0	104.75	57	1.8
Yellow Pear	16	21.50	9	2.4	63.25	38	1.7	84.75	47	1.8
Beauty.....	16	73.00	26	2.8	32.00	39	0.8	105.00	65	1.6
Hummer.....	27	33.00	22	1.5	53.00	35	1.5	86.00	57	1.5
Globe.....	20	34.75	22	1.6	42.25	32	1.3	77.00	54	1.4
Stone.....	26	23.50	22	1.1	56.75	34	1.7	80.25	56	1.4
Dwarf Champ	16	35.00	25	1.4	36.25	36	1.0	71.25	61	1.2
Paragon....	23	24.25	22	1.1	38.00	33	1.2	62.50	55	1.1
Golden Queen	23	46.50	24	1.9	11.50	38	0.3	58.00	62	0.9
Purple Peach	16	26.00	28	0.9	25.50	39	0.7	51.50	67	0.8
Ponderosa..	30	19.75	26	0.8	25.25	37	0.7	45.00	63	0.7
Coreless...	9/7	13.50	22	0.6	22.50	33	0.7	36.00	55	0.7
Buckeye St.	8/7	23.00	21	1.1	4.00	37	0.1	27.00	58	0.5
HonorBright	15	8.75	23	0.4	11.00	36	0.3	19.75	59	0.3
Dwarf Stone	26	6.00	24	0.3	7.50	36	0.2	13.50	60	0.2

The pigs in the pasture experiment made no gains during the three weeks ending October 9, due to the cessation of growth of the alfalfa. From September 11 to October 9 they were fed at an actual loss of \$4.15. It would have been better to have removed them from the pasture early in September and continue the feeding with alfalfa hay and barley. The final results show a net return per acre of \$32.52 for the Durocs and \$25.28 for the Berkshires.

On October 9, all pigs were put in a pen and are now being fed a two per cent ration of barley with all the alfalfa hay they will eat. The grain ration will soon be raised to 3% barley.

Mr. Suttan's pigs continue to make satisfactory gains. The net returns for the two pigs for ten weeks is \$4.90, which is more than the five Durocs made in 21 weeks on pasture. They are paying over \$40.00 per ton for the hay fed.



23 October, 1915.

WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

## Truckee-Carson (continued)

	21 days Sept. 18 - Oct. 9			All periods -146 days May 16 - Oct. 9		
	Durocs	Berks.	All Pigs	Durocs	Berks.	All Pigs
Number of pigs.....	3	3	6			
Initial weight, lbs.....	335	251	586			
Final weight, lbs.....	335	255	590			
Total gain, lbs.....	0	4	4	277	205	482
Daily gain, lbs.....	0	.19	.19	1.9	1.4	3.3
Daily gain per acre, lbs.	0	1.5	.76	15.2	11.2	13.2
Daily gain per cent.....	0	.08	.005	.56	.56	.56
Barley fed, lbs.....	140	106	246	996.5	746.3	1742.8
Cost of barley @1-1/2¢...	2.10	1.59	3.69	14.95	11.19	26.14
Value of gain @7¢.....	0	.28	.28	19.39	14.35	33.74
Net return.....	- 2.10	-1.31	-3.41	4.44	3.16	7.60
Daily net return per acre	- .80	- .50	- .65	.24	.17	.21
Net return per acre.....	-16.80	-10.48	-13.64	35.52	25.28	30.40

Record of Suttan's Pigs.

	Ninth period Sept. 25- Oct. 2. 7 days.	Tenth period Oct. 2 - Oct. 9. 7 days.	All periods July 31 - Oct. 9 70 days.
Number of pigs.....	2	2	2
Initial weight, lbs.....	243	264	141
Final weight, lbs.....	264	279	279
Total gain, lbs.....	21	15	138
Daily gain, pounds.....	3	2.14	1.97
Daily gain per cent.....	1.19	.79	.98
Barley fed, lbs.....	34	37	272
Cost of barley @1-1/2¢...	.51	.56	4.08
Value of gains @ 7¢.....	1.47	1.05	9.66
Returns over cost of bar.	.96	.49	5.58
Hay fed, lbs.....	30	38	226
Value of hay @\$6 per ton.	.09	.11	.68
Net returns.....	.87	.38	4.90



23 October, 1915.

WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

## San Antonio.

The maximum temperature for the week ending October 16, was 92°, minimum, 59°, and greatest daily range, 26°. The greater part of the week was cloudy and threatened rain. Light showers occurred on three days, the total precipitation being .15 inch.

Field work was possible throughout the week, the principal work done being plowing, cutting and raking cotton stalks, and hauling hay and manure. Plots A5-10, 12 and 16 were plowed. Practically all cotton stalks on the farm were cut and raked, ready for burning. Sorghum cut last week was raked and shocked. The following plots in the rotation experiment were manured: B6-7 and B6-9 and A6-16. The first planting of flax in the date of seeding test was made.

A class in agriculture from the San Antonio High School under the direction of Miss Schultz visited the farm on Thursday afternoon.

## Belle Fourche.

During the week ending October 16, the maximum temperature was 72°, minimum, 24°, and precipitation .56 inch.

The harvesting and shocking of corn was completed. All potatoes dug except one plot in the irrigated rotations, A1-16. The harvesting of beets in the irrigated rotation about one-half completed.

The following table gives the yield in the time of breaking experiment. The early breaking from May 1 to July 1 is uniformly the best for the first years cropping. The replotting of the May breaking gave no increased yields. After the first year there is no consistent variation in yield in the time of breaking. For dry land it is probably preferable to break in the early summer, from May 1 to July 1 and keep the land free from weeds by disking and harrowing.



23 October, 1915.

WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

Belle Fourche (continued)

Time of Breaking Experiment, Field D.  
Yield of Oats.

Plat No.	Treatment Broke	Yield Per Plat		Yield Per Acre		Proportion of grain to straw	
		Grain lbs.	Straw lbs.	Grain bus.	Straw töls.		
1	Apr. 1911 backset	465	345	59.8	.72	1	.74
2	May "	390	310	50.1	.65	1	.79
3	June "	441	294	55.7	.61	1	.67
4	July "	427	313	54.9	.65	1	.74
5	Aug. "	387	293	49.8	.61	1	.76
6	Sept. "	388	292	49.9	.61	1	.75
7	Oct. "	394	306	50.6	.64	1	.78
8	Apr. 1912	434	306	55.8	.64	1	.71
9	Apr. " backset	442	288	56.8	.60	1	.65
10	May "	443	297	56.9	.62	1	.67
11	June "	397	303	51.0	.63	1	.76
12	July "	436	324	56.0	.67	1	.74
13	Aug. "	352	228	45.3	.48	1	.65
14	Sept. "	377	243	48.5	.51	1	.64
15	Oct. "	420	330	54.0	.69	1	.79
16	Apr. 1913	417	323	53.6	.67	1	.77
17	May " backset	404	276	52.0	.58	1	.68
18	June "	463	327	59.5	.68	1	.71
19	July "	415	285	53.4	.59	1	.69
20	Aug. "	481	329	61.9	.69	1	.68
21	Sept. "	477	343	61.3	.71	1	.72
22	Oct. "	439	336	56.4	.70	1	.77
23	Apr. 1914	536	419	68.9	.87	1	.78
24	May " backset	678	532	86.0	1.11	1	.78
25	May "	680	510	86.3	1.06	1	.75
26	June "	648	477	83.3	.98	1	.74
27	July "	462	343	63.5	.71	1	.74
28	Aug. "	447	338	57.5	.70	1	.76
29	Sept. "	470	375	60.4	.78	1	.80
30	Oct. "	437	233	56.2	.49	1	.53
31	Apr. 1915	371	269	47.7	.55	1	.73

Area of plats .24 acre.

Treatment given in first column represents the plowing done before the crop was planted. All plats were seeded every season, after the season in which breaking was done. They were replowed each fall.



23 October, 1915.

WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

## Belle Fourche (continued)

The spring grain was seeded on disced corn ground on May 8 and 10. This was about three weeks too late for best results. Spring wheat sown April 14 on dry land, yielded nearly twice as much as that sown May 8.

Irrigated Wheat Varieties

C. I. No.	Variety	Grain Bu. per acre	Straw Lbs. per acre
3276	Marquis.....	18.0	1733
1440	Kubanka.....	22.0	1891
3025	Power Fife.....	14.7	1775
2874	Haynes Bluestem.....	11.5	2025
3703	Defiance.....	8.0	1625
	Saskatchewan Fife.....	12.1	1741
	Pringle Champion.....	12.2	1458

All varieties injured at least 10% by the hail while in the shock.

Irrigated Oat Varieties.

C. I. No.	Variety	Grain Bu. per acre	Straw Lbs. per acre
165	Sixty Day.....	34.0	841
134	Swedish Select.....	46.5	1766
444	Canadian.....	44.7	1825
	Lincoln.....	50.7	1641
	Silvermine.....	52.3	1675
	"Pete Edwards".....	51.8	1675
551	White Russian.....	52.8	2308

All plats damaged 10% or more by hail.



23 October, 1915.

WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

Belle Fourche (continued)

Irrigated Barley Varieties.

C. I. No.	Variety	Grain Bu. per acre	Straw Lbs. per acre
690	Coast.....	23.0	1008
530	Chevalier II .....	39.2	1650
	"Beresford" Chevalier.....	37.2	1716
905	Wisconsin, No. 13.....	20.9	916
	White Hull-less *.....	20.4	916
	Guy Mayle *.....	23.4	916
1524	Emmer.....	58.0	1541

\*Hull-less Barleys.

All barley calculated at 48 pounds per bushel;

Emmer at 32 pounds per bushel.

Grain Mixtures, Irrigated.

Variety	Grain lbs. per acre	Straw lbs. per acre
Barley.....	2033	1691
Oats.....	1825	1916
Wheat.....	1641	2158
Barley-Oats.....	1950	1983
Barley-Wheat.....	1775	1916
Oats-Wheat.....	1750	2025
Barley-Oats-Wheat.....	1930	1891

Barley - 530 Chevalier II. Oats - 134 Swedish Select.

Wheat - 1440 Kubanka.

N.B. The plats of pure barley were threshed before the hail;  
all other plats were shattered 10% or more in the shock.

Also the barley was more susceptible to damage by the hail.



23 October, 1915.

WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

Belle Fourche (continued)

Irrigated Winter Grain.

C.I.	Variety	Bu. per acre
	N.D. 959 rye (a)	38.8
137	Minn. No. 2 rye	44.6
1667	Beloglina	52.1
1583	Kharkov	66.3
4207	Kharkov	61.3
3055	--159 (c)	66.6
1437	--397 (b)	59.1
1437	--394 (b)	51.9
1442	--343 (b)	57.5
	Av. of wheat	59.2

(a) One plat only.

(b) Awnless selections.

(c) Selection from Turkey Wheat.

Highest yielding plat - rye 48.6 bu. per acre

lowest 38.8 bu.

Highest yielding plat - wheat 72.5, lowest 47.1 bu.  
per acre.

Winter grains were all grown on summer fallowed land.

Twelve hogs were turned into the two corn plats on Rotation: 69, on September 27. The initial weights, final weights, and gains are given in the following table.

Dates	No. of hogs	No. Days	Weights		Gains lbs	Net returns per acre
			Initial	Final		
9/27--10/7	12	10	890	1115.5	225.5	\$ 31.57

Hogs are figured at \$7. per hundred pounds. This is the price now being paid for hogs on this project.



23 October, 1915.

WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

## Belle Fourche (continued)

The final weighings on the lambs turned into the triangular plat of alfalfa on the south end of series II, field A, was made on October 7. The hail storm on the 2nd of October injured the alfalfa so that the gain for the last period was not as great as it should be.

The gains made for all periods are shown in the following table:

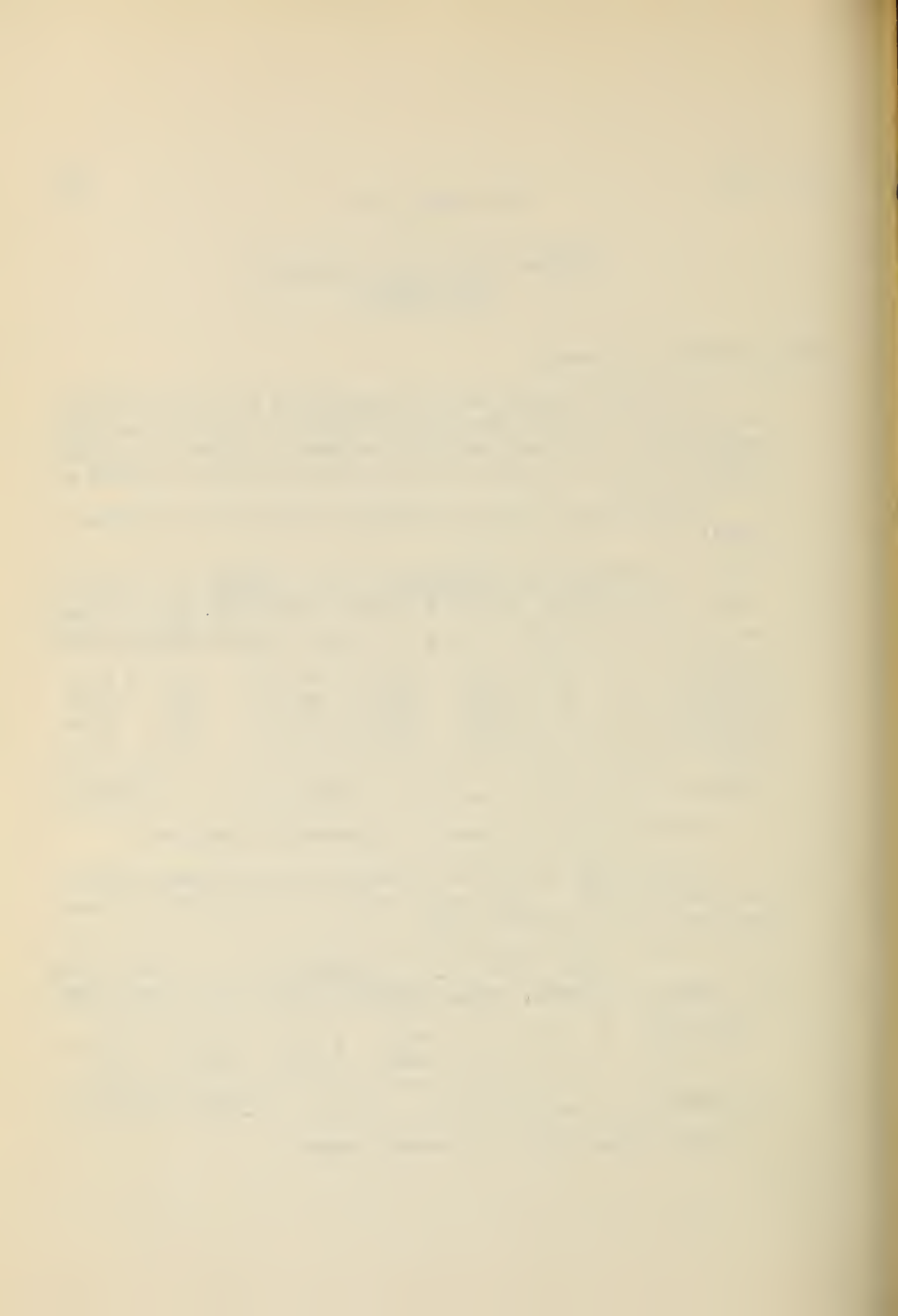
Dates	No. Days	No. Sheep	Weights		Gains		Net returned per acre
			Initial	Final	Total	per day per sheep	
8/28-9/6	9	10	755.0	785.0	30.0	.33	\$ 2.10
9/6-9/16	10	10	785.0	841.5	56.5	.56	3.96
9/16-9/27	11	10	841.5	883.5	42.0	.38	2.94
9/27-10/7	10	10	883.5	910.0	26.5	.27	1.85
Totals	40				155.0		\$10.85

The area of the plat used is approximately one acre.

The five hogs on alfalfa in Rotation 65 were turned on the corn, September 27. The initial weight, final weight, and gains are given in the following table:

Dates	No. hogs	No. days	Weights		Gain	Net returns per acre
			Initial	Final		
9/27-10/7	5	10	405.5	480.5	75.0	\$ 21.00
10/7-10/12	5	5	480.5	542.5	62.0	17.36
Totals		15			137.0	\$ 38.36

Hogs figured at \$7. per hundred pounds.



23 October, 1915.

WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

Scottsbluff.

On Tuesday of the week ending October 16, the digging of potatoes in field "K" was completed.

The result for the alfalfa cultural work is as follows: Spring-toothed, 2323 pounds; disked, 2525 pounds; no treatment, 2575 pounds; and manured, 2887 pounds. The manure was applied in the spring at the rate of 10 tons per acre.

The yields of the potatoes of the different seed stock are as follows:

	Bushels per acre			Rank in field
	Culls	Large	Total	
<u>EUREKAS</u>				
Immature Seed.....	73.3	183.7	257.0	1
Whole Large Seed.....	65.5	176.1	241.6	2
Culls.....	87.9	112.5	200.4	3
Bin Selection.....	63.3	116.6	179.9	4
Field Run.....	65.4	95.4	160.8	5
Field Selection.....	51.6	89.5	141.1	6
<u>PEARLS.</u>				
Immature Seed.....	83.7	243.7	327.4	1
Bin Selection.....	93.3	158.3	251.6	2
Whole Large Seed.....	65.8	139.5	205.3	3
Culls.....	70.8	128.3	199.1	4
Field Run.....	60.4	66.6	127.0	5
Field Selection.....	54.4	68.8	123.2	6

For the last two days it has been raining and no outside work could be done.

Dairy Report for September.

The cows did not make a very good showing for the month of September. On account of the cool weather the grass made but very little growth. Although the cows remained on the pasture until September 15, we felt that they were getting practically nothing of this grass, as they were consuming a large amount of hay. They were taken off the pasture on the 15th, and since then no further growth was noticed on any of the pasture.

The price of butter fat during the month was 20 cents per pound. At this price for butter fat and figuring the hay at \$5 per ton, we find that only one cow made a profit during the month.



23 October, 1915.

WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

## Scottsbluff (continued)

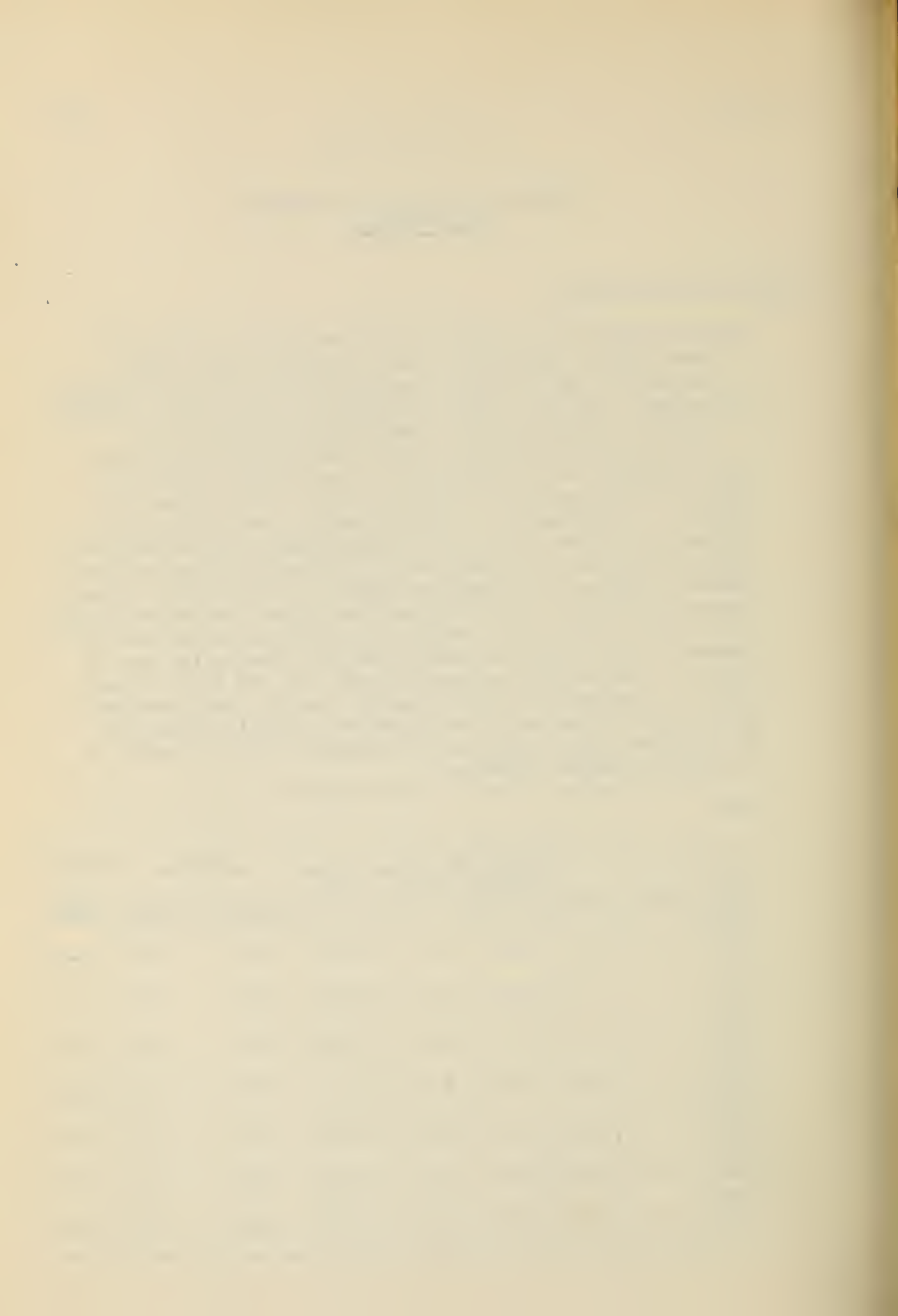
With the stock that we have and the low price of butter fat it seems almost impossible to make a profit in this work.

Since the 1st of October, we have been feeding some turnips to the cows, and they have increased the flow of milk to quite an extent - enough to make a profit on this proposition.

It is very interesting to note that several of the cows have decreased the flow of milk but very little during the month. The percent of butter fat in the milk, without exception, was increased. The cow, Stella, for instance, has decreased the flow of milk to 91 pounds during the month, but increased the butter fat almost 1.1 per cent, making the total amount of butter fat during the month 0.5 pounds greater than the month previous. The Holstein cow, Mabel, has decreased the flow of milk 28.6 pounds, while the butter fat in the milk increased 0.6 per cent, increasing the total butter fat over 3 pounds. Practically the same is true with the Holstein cow, Marie. This merely corroborates the work of Prof. Frandsen, of the State University, that there is a slight increase in the milk fat, which makes winter dairying more profitable, as a rule, than summer dairying.

The following tables give the results of the past month's work:

Pounds Milk	Butter Fat					Hay		Profit or Loss
	Av. Test	Total	Market Price	Value of	Cost of	Pounds	Value	
Vonder								
130.0	5.0	6.5	20¢	1.30	54.7	1429	3.56	- 2.26
Rose								
245.6	4.0	9.82	20¢	1.96	36.2	1429	3.56	- 1.60
Marie								
466.9	3.0	14.00	20¢	2.80	25.4	1429	3.56	- 0.76
Mabel								
604.0	3.0	18.1	20¢	3.62	20.0	1429	3.56	+ 0.06
Beauty								
253.8	4.2	10.65	20¢	2.13	33.4	1429	3.56	- 1.43
Haud								
348.1	4.2	14.62	20¢	2.92	25.4	1429	3.56	- 0.64
Stella								
387.4	4.1	15.80	20¢	3.17	20.0	1429	3.56	- 0.39



23 October, 1915.

WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

## Scottsbluff (continued)

The following table gives the amount and value of skim milk for each cow during September:

Cow	Skim Milk		
	Total Pounds	Value	Total Value
Wonder.....	110.5	25¢	\$ .28
Rose.....	208.8	25¢	.52
Marie.....	396.9	25¢	.99
Mabel.....	513.4	25¢	1.28
Beauty.....	215.7	25¢	.54
Maud.....	295.9	25¢	.74
Stella .....	329.3	25¢	.82



23 October, 1915.

## DEMONSTRATIONS ON RECLAMATION PROJECTS.

## FIELD NOTES.

## Huntley.

During the week ending October 9, another outbreak of cholera occurred on the project. Mr. Sampson to date has lost three hogs, but the balance of his hogs appear healthy. So far he has not decided to vaccinate. On Wednesday the C.B.&Q. Live Stock and Better Farm Special made one hour's stop at Huntley and Ballantine, respectively. Only a small crowd was received at Huntley but a very good attendance was secured at Ballantine. Much interest was manifested by the farmers in the live stock specimens which accompanied the train, and in the models of different kinds of silos which were shown and explained. The women and children enjoyed lectures on subjects relating to the household. Fifteen farm visits were made during the week and 65 calves were vaccinated against black leg.

## Minidoka.

A demonstration in gains on hogs carried on during the week ending October 9, with Messrs. Hite and Rush, local farmers and hog buyers gave the following results: two hundred and twenty-seven hogs were received from the farmers on shipping day. A few farmers had brought in one or two more than the agreed lot. As this was more than could be shipped in two cars, twelve of the poorest hogs were cut out and held over one week to the next shipping day. During this time the twelve head consumed 850 pounds of barley and made a gain of 275 pounds live weight. Thus it required 3.09 pounds of grain to make one pound of gain. Factors entering into this demonstration is that the hogs selected were thin - probably fattened in grain fields - and at the time they were cut from the bunch were shrunk. However, the results would indicate that at the present prices of grain and hogs pork is not being produced at a loss as many farmers claim.

In the past all project hogs have been shipped to Los Angeles and San Francisco. The Denver market is being tried this week. A factor in competing on far away markets is the condition of the hogs at the end of the journey. Through the hot weather the shrinkage on hogs shipped from Burley and Rupert to Los Angeles has been 11 per cent. Naturally the hogs after a ship-



23 October, 1915.

DEMONSTRATION ON RECLAMATION PROJECTS.  
Field Notes.

## Minidoka (continued)

ment of this kind appear at a great disadvantage in comparison with those that have been fattened locally. The same difficulty is to be expected in the shipments to Denver.

During this week assistance was given project farmers in the selection of the following stock. The farmers did the buying, the only assistance being given in the selection.

- 2 registered Poland China gilts.
- 1 registered Shorthorn bull (beef type)
- 1 registered Hampshire ram lamb.
- (selected - not bought yet.)

The price of butter fat is now 28¢. Hogs are \$5.50 per cwt. Wheat is \$1.25, oats \$1.00 and barley 90¢ per cwt. Potatoes are from 50 to 55¢ per cwt sacked and loaded on the cars. The sacks are 8-1/2¢ each. At these prices some of the farmers claim that they are losing money while others state that they are receiving from \$40 to \$65 an acre. Alfalfa is selling at \$5.50 delivered loose or \$5.70 baled and delivered. Most of the hay is being held for better prices.

## Boise

Hog cholera has appeared again during the week ending October 9. On Sunday, Mr Lindgren of the Uncompahgre, Colo. project assisting, the remainder of O. F. Frank's herd in which 12 head of pigs were treated on September 25, was vaccinated, cholera having broke out in the older hogs. High temperatures prevailed, showing that it would have been better to have treated the entire herd the week previous. Four of the 12 head vaccinated on September 25, had died. On Monday 11 head were vaccinated for E. G. Amack of Nampa. Mr. Amack had lost no hogs and none were killed for post mortem as one hog would pay the cost of the serum and there was a chance to save everything. The diagnosis of the trouble was not positive but symptoms, including temperatures, indicated cholera.

One day was spent in assisting men in filling silos and a little over a day was spent in the office. The rest of the week was spent in Boise attending the "Gem State Fair", a meeting of the State Swine Breeders Association and conferring with Mr. Rinehart of the Minidoka Project, University and Extension officials



23 October, 1915.

## DEMONSTRATIONS ON RECLAMATION PROJECTS.

Field Notes.

## Boise (continued)

and the Project Manager of the Reclamation Service. As a result of the visit to the U.S.R.S office I was assured that the data desired by this office would be collected in connection with the regular Reclamation Service Survey which will be made this month and next.

The "Gem State Fair" was, in general, a repetition of the "Idaho State Fair" held at Caldwell the preceding week. There was an exceptionally strong showing of Holsteins, especially in comparison with the showing made by other dairy breeds. Aberdeen Angus, Shorthorn and Herefords were fairly well represented. Poland Chinas and Duroc Jerseys were the only breeds of hogs well represented. Percherons predominated among the horses. Sheep were represented by a few good individuals of several breeds but there was no competition.

Weather has been ideal for all the fairs of which there have been at least ten of interest to project settlers within the past three weeks.

## Tieton.

Samples of milk from 69 cows in 11 herds were tested during the week ending October 16. In one case two herds were tested at one farm and in another 6 dairymen took their samples to a centrally located farm. The value of community interest in cow testing is becoming more and more apparent. In one case only has there seemed to be evidence of one man having "loaded" his samples to secure a higher test. It is believed that this will not be done again. Probably because of the difficulty in raising the test to only a reasonable extent.

Four calls were received during the week for blackleg vaccine. Two steers of the herds recently brought in from the mountain range died of blackleg. This loss in connection with the heavy losses from blackleg in the fall of 1914 will undoubtedly result in numerous calls for blackleg vaccine. Notices have been placed in the country stores that blackleg vaccine may be obtained free of charge through this office in cooperation with the State Veterinary.

The dairy stock at Mr. Pue's auction sale in the Ahtanum Valley sold at comparatively high prices. Very common scrub and grade Holstein and Shorthorn cows sold at from \$65 to \$105. Most of the



28 October, 1915.

## DEMONSTRATIONS ON RECLAMATION PROJECTS.

Field Notes.

## Tieton (continued)

bids started at \$75 and a majority of the cows were raised at least \$5 above the initial figure. About 15 out of the 167 head sold came to the Tieton project.

Three calls have been received in regard to importing young dairy stock from without the Valley. Two calls were received in regard to helping select dairy stock in the Valley. Travel in this connection will probably be performed next week.

Many farmers have turned their cattle on to the fourth crop of alfalfa. Considerable bloat and some losses have resulted. One man so troubled seeded a mixed grass pasture this week.

Very few hogs are being sold at the present low prices (top 5-1/2¢). Most swine owners are optimistic for better prices in the near future and some are holding their hogs on fourth crop alfalfa with some grain. Since the majority so doing have no other stock with which to clean up their alfalfa fields the hogs are being held over very cheaply.



30 October, 1915.

## WESTERN IRRIGATION AGRICULTURE.

## FIELD NOTES.

## Umatilla.

During the week ending August 28, the maximum temperature was 100 and minimum 54.

The necessary ditches for use in irrigating field B1, which was recently prepared for an irrigation experiment, were cleaned and equipped with a wooden measuring box for the purpose of getting an accurate measure of the water used on the several plats of the experiment.

Borders were made in field A4 between plats 12 to 18 inclusive to facilitate irrigating the land which is quite nearly level. The respective plats were irrigated by the use of a large head of water turned into one plat at a time with a result that more thorough work was done, and less water and time were consumed in the operation.

During the week ending September 4, the maximum temperature was 104 and minimum 43.

Field A4 was reseeded to clover. According to the regular plan of this experiment; soil fertility experiment #3; the clover should have been mature during this season, but owing to loss of the crop sown in the fall of 1914 by cutworms it had to be reseeded in the spring of 1915. Seeding at this time is not as successful as fall seeding, consequently a good stand was not secured. By reseeding now it is anticipated that an excellent stand will be had for next season.

Mr. Farrell visited the farm, August 31 and September 1. Mr. Paul S. Jones who has received the appointment as Agriculturist for the Umatilla Project arrived September 1 to begin his work.

During the week ending September 11, the maximum temperature was 87, and minimum 39.

The fourth crop of alfalfa was cut from the various fields excepting soil fertility experiment #4, field D4, from which the second cutting was taken. The feterita which was grown on part of the remaining plats of this experiment was also harvested. The figures on yields of hay, stover and grain from these plats will be given as soon as the threshing is completed.

Numerous stacks of weeds that have accumulated from the roads and fields were hauled to the compost heap.



30 October, 1915.

## WESTERN IRRIGATION AGRICULTURE.

Field Notes.

## Umatilla (continued)

Field A3 was reggraded and sown to red clover. As this piece of land is difficult to irrigate on account of being fairly level, and the soil being coarse borders were thrown up in order that furrows would not be necessary as a means of spreading the irrigation water. With these borders the water can be turned in and the land flooded. We are finding this to be the most practical method of handling water where there is not too great a fall to the land.

Irrigation Experiment #5.

Comparative results from interval of irrigation alfalfa experiment for 1914 and 1915.

Plat	Tons of hay per acre		Water applied in acre-feet per acre		Tons of hay per acre-foot.	
	1914	1915	1914	1915	1914	1915
A	4.0	3.5	4.4	2.3	.92	1.5
B	5.3	4.6	5.3	3.6	1.0	1.3
C	5.6	5.6	9.7	7.0	.57	.8

Plat A was irrigated once a week, plat B once every two weeks, and plat C once every three weeks.

During 1914 the plats were irrigated without regard to the amount of water per application while during 1915 the applications were 4 acre-inches per acre, this being the amount of water the soil moisture results from the year before showed was retained in the surface four feet. The four inch application had a material effect in cutting down the amount of water used for the season and also reduced the yields in some instances, but raised the amount of hay produced per acre-foot of water in all instances.

During the week ending September 18, the maximum temperature was 90, and minimum 39.

Harvesting alfalfa and feterita in field D4, soil fertility experiment #4 was continued and completed.



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WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

## Umatilla (continued)

A small part of B4 was graded and prepared for planting to alfalfa. Vetch and rye were seeded in D5 according to the plan for fertility experiment #2, which is being carried out on that land.

September 15 was announced as field, or visitors day. A total of 60 people were present and all the more important experiments were reviewed. At this season of the year many of the residents of the project are working at a distance which accounts for the small attendance. All who came were much interested in the results that are being derived from the work, and many expressed their satisfaction with what they had seen and learned.

Two demonstrations were held in the application of irrigation water by the two most efficient means that we have been able to establish upon the farm. A number of checks in field D4 were irrigated with a range of 3 to 5 inches of water to the plat. In field B1 a border 22 feet wide by 100 in length was irrigated with approximately 1-1/2 inches of water. A border of the same width 175 feet long was irrigated with approximately 2 inches of water and a third 250 feet long was irrigated with approximately 2-1/2 inches.

Considerable interest was shown in this work, as it gave an unusually good example of the importance of having land and distribution system so arranged as to admit the water being applied with a minimum of waste. The small amount of labor necessary to apply water by such means is also a decided point in their favor.

Owing to the irregular character of the bulk of land upon this project such methods are impractical owing to the heavy grade, and large amount of grading that would be necessary to render the land properly fitted for such a system. As a means of demonstrating what can be done in the way of economizing in water and labor necessary for irrigating a given piece of land these illustrations are the best we have been able to give.

The alfalfa on the Holman tract, irrigation experiment #9, was harvested on September 16.

The variety test of corn and some of the grain sorghum varieties were cut and shocked to cure in the field.

Mr. Dean started on September 16 for a few days trip into Washington for the purpose of studying irrigation and crop conditions in the Walla Walla and Yakima River Valleys.



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WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

Umatilla (continued)

Soil Fertility Experiment #4.  
 Weights of second crop of alfalfa cut from forage  
 crop rotations of September 13.

Plat Plat	No Manure	8 Tons manure per acre	32 tons manure per acre
Series A			
1	50.0 lbs	.....	.....
2	....	50.0 lbs.	.....
3	....	.....	78.0 lbs.
4	58.0	.....	.....
5	....	70.0	.....
6	....	.....	88.0
Series B			
1	55.0	.....	.....
2	....	60.0	.....
3	....	.....	85.0
4	50.0	.....	.....
5	....	70.0	.....
6	....	.....	95.0
Series C			
1	83.0	.....	.....
2	....	99.0	.....
3	....	.....	105.0
4	70.0	.....	.....
5	.....	75.0	.....
6	....	.....	119.0

During the week ending September 25, the maximum temperature was 83 and minimum 40.

The sorghum varieties in fields A2 and B3 were harvested, also two small plats of Sudan grass.

Vetch was seeded in fields Cla and b, and the east part of C2. As the seed is very expensive it was put on thin for the purpose of seeding the land for next year. Rye was sown on Clc. Considerable rye was disked in on field C2 to get the land seeded for the winter growth.

Several days were spent with a team hauling manure from feed lots on the river for use in soil fertility experiment #4.



30 October, 1915.

## WESTERN IRRIGATION AGRICULTURE.

Field Notes.

## Umatilla (continued)

During the week ending October 2, the maximum temperature was 78, and minimum 33.

Additional time was devoted to hauling manure, and to spreading it on the various plats.

Sudan grass seed was threshed from two small plats, one of which was sown broadcast and the other in drills 40 inches apart.

Rye was disked in in field C2. A light seeding of vetch was applied, and a portion of the land irrigated. As the water was turned off September 30, not all the land seeded to vetch could be irrigated to ensure its early germination.

During the week ending October 9, the maximum temperature was 75, minimum 30, and precipitation T.

Additional time was devoted to hauling and spreading manure.

Threshing the variety test of grain sorghum was begun. As this test was run in triplicate, and since the work has to be done by hand considerable time is being consumed in accomplishing it.

During the week ending October 16, the maximum temperature was 72, minimum 28, and precipitation .04 inch.

Rye was disked in in fields D4 and B2. Disking in the grain that went to seed on this land constitutes a fall sowing, except in thin places where it is necessary to seed with the drill.

The work of threshing grain sorghum varieties has been continued.

Summary of Season's Results of Lysimeter Experiment.

Lysimeter	Inches of water applied	Inches of percolate	% of Applied water percolated	Evaporation and transpiration in inches	Av. p.p.m. salts in irriwater	Av. p.p.m. salts in percolate
1 (no crop)	37.0	25.20	68.10	11.80	92.7	221
2 Soy beans	37.0	18.83	50.89	18.17	92.7	216
3 Alfalfa	37.0	12.93	35.08	24.02	92.7	260
4 Man. alf.	37.0	13.32	36.00	23.68	92.7	448



30 October, 1915.

WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

## Scottsbluff.

In a letter dated October 31, Mr. Holden submits the following tabulated statement of the 1915 hog pasturing experiment, figured on an acre basis, together with the results for the same period of 1914.

Results of the second period (July 1 to end of season) of the hog pasturing experiment of 1914 and 1915 compared. Hogs are valued at \$7. and grain \$1. per cwt.

Grain Ration	Initial Weight		No. of Hogs		Gains Pounds		Grain fed Pounds		Net return per acre, pasture	
	1914	1915	1914	1915	1914	1915	1914	1915	1914	1915
No Grain	1424	792	24	24	408	304	--	--	\$28.56	\$21.28
1% Corn	2064	1184	32	36	1008	836	1971	1420	50.85	44.32
Rot.65 2%corn	2356	1588	40	48	1900	1732	4597	3412	87.03	87.12
2% Corn	--	1616	--	48	--	1580	--	3564	--	74.96
2% Barley	2244	1592	40	48	1740	1592	4232	3516	79.48	76.28
3% Corn	3084	1984	48	60	2940	2520	8758	6468	118.22	111.72



30 October, 1915.

WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

## Scottsbluff (continued)

Results of the hog pasturing experiment for the total season of 1914 and 1915 compared. Hogs are valued at \$7. and grain at \$1. per cwt.

Grain Ration	Gains Pounds		Grain fed Pounds		Net return per acre, pasture		Net return per ton hay		Mean net return 2 years	
	1914	1915	1914	1915	1914	1915	1914	1915	for pasture	for ton hay
No Grain	676	612	--	--	\$47.32	\$42.84	\$ 7.22	\$ 9.60	\$45.08	\$ 8.41
1% Corn	1520	1456	3585	2752	70.55	74.40	10.75	16.68	72.47	13.71
Rot. 65 2% corn	3036	2976	8266	7052	129.86	137.80	19.79	30.06	133.83	24.92
2% Corn	--	2760	--	6796	----	125.24	--	28.07	----	----
2% Barley	2780	2772	7744	6728	117.16	126.76	17.86	28.42	121.91	23.14
3% Corn	4416	4292	13350	12164	175.62	178.80	26.77	40.09	177.21	33.43

## San Antonio.

The maximum temperature for the week ending October 23rd was 92, minimum 49, and greatest daily range 34. The total precipitation was 1.75 inches, most of which came in one rain on Sunday night, October 17th. After the rain, clear weather prevailed for the remainder of the week, permitting field work as soon as the land had dried sufficiently.

Field work was started on Thursday. Fallow rotations plats and other fallow fields were harrowed. Cultivation of the orchards was started. Plowing of field C-5 was also started. Field D-3 was harrowed and weeded, and the crops to be pastured with cattle and hogs were planted on this field on October 21st and 22nd. Cow-peas on the corn and cowpea experiment on field C-3 were harvested. Manure was disked in on plats B6, 7, and 9, and A6-16.

The first two days after the rain the time was utilized in repairing the bridge in front of the farm gate and in hauling prickly pear from the new three-acre tract of land. The new tract has now been entirely cleared and rubbish cleared off.



30 October, 1915.

WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

Belle Fourche.

During the week ending October 23, the maximum temperature was 81, and minimum 32.

The concrete foundation for the barn was put in this week.

Nearly all of the fall plowing in field A was completed.

All but one of the alfalfa plats to be fall plowed, were crowned.

Corn husking in field B was practically finished.

Yields of potato varieties in field P are given in the following table:

Variety	Row	Yield per acre		Marketable	
		Each row	Av. for variety	% each row	Av. % each variety
	7	86.3		77.4	
E. E. Ohio.....	27	72.8	79.6	79.4	78.4
	8	76.5		87.3	
W. Ohio.....	28	69.0	73.8	81.5	84.4
	9	175.5		85.1	
Carmen #3.....	29	117.0	146.5	84.6	84.7
	10	77.3		76.7	
R. R. Acme.....	30	66.8	72.1	84.3	80.5
	11	74.3		76.8	
Cobbler.....	31	83.3	78.8	77.0	76.9
	12	168.8		88.4	
Peerless.....	32	141.0	154.9	86.7	87.6
	13	61.5		78.0	
Early Ohio.....	33	63.0	62.3	76.8	77.4
	14	70.5		77.7	
Albino.....	34	74.3	72.4	84.9	81.3
	15	93.0		61.1	
Peach.....	35	88.5	90.8	89.0	75.1
	16	118.5		89.9	
Burbank.....	36	123.0	120.8	93.9	91.9
	17	131.3		85.5	
Russet.....	37	120.8	126.1	86.4	86.0
	18	156.8		87.1	
4452.....	38	153.8	155.3	91.3	89.2
	19	48.0		76.6	
8114.....	39	45.0	46.5	78.3	77.5
	20	114.8		73.9	
15044.....	40	111.0	112.9	66.2	70.1

(continued)



30 October, 1915.

WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

Belle Fourche (continued)

Variety	Row	Yield per acre		Marketable	
		Each row	Av. for variety	% each row	Av. % each variety
Pearl.....	21	62.3		91.6	
	41	63.0	62.7	83.3	87.5
	22	74.3		79.8	
Triumph.....	42	43.5	63.9	77.6	78.7
Rural New Yorker.....	23	120.8	120.8	91.9	91.9
Olds Prolific.....	24	177.8	177.8	92.0	92.0
Sir Walter Raleigh...	25	135.0	135.0	91.1	91.1
Green Mountain.....	26	131.3	131.3	90.3	90.3
	1	155.3		89.6	
	2	138.0		96.8	
4452.....	3	180.8		95.0	
	4	134.3		92.1	
	5	180.8		97.5	
	6	188.3	162.9	90.5	93.6
4452.....	43	70.5*	70.5	93.6	93.6

\*Near ditch and nearly drowned out.



30 October, 1915.

## DEMONSTRATIONS ON RECLAMATION PROJECTS.

## FIELD NOTES.

## Shoshone.

During the week ending October 2, the Billings Sugar Factory was written for prices on syrup. It offers syrup at \$3.40 per barrel or \$10.68 per ton f.o.b. Billings. The freight in car lots amounts to 90¢ per barrel while the local freight is \$2.40 per barrel. The return freight on empties is 55¢ for three barrels or less. From farmers who are not growing beets the money for the syrup and \$7.00 deposit on each barrel is required in advance. For beet growers a charge is made against the beets. Fifty to sixty barrels are shipped in a car. Several men who have been feeding syrup, do not want to order any more until their cattle or hogs have cleaned up their beet fields.

In advertising a live stock demonstration car, circular letters were sent out to all of the farmers. It was also announced in the schools and posters were printed and put in store windows. Hogs and cows and milk samples were arranged for, for demonstration purposes; meetings were also arranged for the farmers.

A sample of disintegrated concrete from a culvert and a jug of the alkali seepage water at the culvert, were sent to the state chemist at his request, for analysis. Experiments are being made by the Reclamation Service with the effect of alkali on different mixtures of cement.

Two sheep breeders were written regarding breeding sheep for farmers on the project, several of whom want to raise pure bred rams for the sheepmen in the hills. It seems to be difficult to locate registered ewes for sale in this section. Those who have registered sheep are keeping their ewes.

During the week ending October 9, detailed figures on the cost of silage were obtained from two men who have filled this year. The figures on six silos are as follows:



30 October, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

## Shoshone (continued)

Name.....	Kagi	Linton	Bartlett	Claflin	Atkins	Loomis
Kind of silage..	corn	corn	corn	corn	corn	oats
Tons silage.....	42	42	40	28	50	40
Acres.....	4-1/2	7	2-1/2	4	5-1/2	7
Silage per acre.	9-1/3	6	16	7	9	5.7
Rent.....	27.00	35.00	25.00	24.00	35.00	49.00
Breaking.....	18.00	17.00	7.50	6.75	12.50	35.00
Ordering.....	4.50	6.50	9.00	2.25	8.00	10.50
Seed.....	5.00	3.50	3.25	1.50	2.25	14.00
Planting.....	2.25	4.50	2.50	2.25	2.50	3.50
Cultivating.....	27.00	13.50	9.00	4.50	25.00	
Irrigation.....	14.00	12.00	8.50	6.50	6.00	17.00
Cutting corn....	7.00	7.00	5.00	3.50	10.00	7.00
Men and teams... in filling....	24.00	30.00	28.50	21.50	30.50	25.75
Cutting silage..	27.00	27.00	20.00	22.50	27.50	20.00
Int. and deprec. on silo.....	37.50	37.50	37.50	33.75	37.50	33.75
Total cost.....	193.50	193.50	155.75	129.00	196.75	215.50
Cost per ton....	4.60	4.60	3.89	4.60	3.93	5.39

A live stock demonstration car which was run by the Burlington Railroad, the International Harvester Company and the State Agricultural College, stopped for one hour at Powell. A large crowd was in attendance and listened attentively to a lecture on cattle which was illustrated by a Holstein cow and a Hereford cow from the car. A boys' cow judging demonstration was also held; domestic science lectures were given the ladies and the car was open to all. A speaker was provided for the night previous and for the schools in the morning. The people would have appreciated the car if they had not expected so much more than they received.

About two hundred pigs and one hundred shoats were bought by Nebraska feeders at six cents per pound. Many farmers do not wish to sell stock hogs for a month yet because cheap gains can be made within the next month on beet tops, grain stubble and alfalfa pasture.



30 October, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

## Shoshone (continued)

Five men were visited about hog feeding. For one of them the second weights were taken on a few typical hogs of the herd. The hogs were about a year old when the second weights were taken, the average weight being 238 pounds and the average gain being 86 pounds, or 1.37 pounds per day for the sixty-three days before October 17. As spring pigs ran with the herd it was not possible to calculate the cost of the gains. The herd brought \$8.20 per hundred weight in Denver which was five cents below the top.

During the week ending October 16, mixed grass pastures were discussed with two men, one of whom expects to give it a trial. The interest in cow pasture is quite general.

Syrup feeding was discussed with two men, one of whom wants four barrels. It seems difficult to make up a car load now, because so many who are interested are beet growers and so are feeding beet tops at present.

A sale of high grade cows was attended. A large crew was present and stock sold for its full value, but not for more than it was really worth. While farmers are anxious for cows, they are not willing to pay more than they are worth. A five year old high grade Holstein cow sold for \$102.00. A high grade nine months old Holstein heifer sold for \$42.00. A good grade five months old Holstein heifer in fair condition sold for \$23.

A meeting of the board of directors of the cooperative creamery was attended and a system of management which I have been recommending was discussed and adopted, to go into effect immediately.

A demonstration on pasturing wheat stubble with hogs was started with Mr. G. T. Gustafson, October 15. The spring pigs were weighed separate from the fall shoats and sows. The 67 pigs were very light, having been on poor alfalfa pasture all summer, with a little grain and in August some alfalfa hay. They weighed 3258 pounds or an average of 48.6 pounds. The 65 fall shoats and small sows were also very light, the shoats having been carried through the winter on alfalfa hay and a light grain feed and through the summer on alfalfa pasture and hay with no grain. Their total weight was 6754 pounds, or an average of 103.9 pounds. Mr. Gustafson says he will never carry hogs through another summer without plenty of alfalfa pasture.



30 October, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

## Huntley.

During the week ending October 16, a preliminary investigation to determine what financial support would be given by project dairymen to a cooperative cheese factory if established at Pompeys Pillar was begun. Thus far only a meager canvass has been made but very encouraging results were secured. Financial backing amounting in the aggregate to \$1150. has been promised by farmers living near Pompeys Pillar. Their names, approximate distances of their places from Pompeys Pillar, and the number of cows owned by each follow:

Name	Distance from Pompeys Pillar	Number of cows now owned	Amount willing to invest
O. D. Robertson...	1 mile	18	\$ 150.
H. Gregg.....	1/2 "	5	100.
Peter Schultetse..	3/4 "	10	200.
Alex Cerece.....	1-1/2 "	4	100.
John Malla.....	1-3/4 "	11	100.
Orla Snow.....	3 "	8	250.
Earl Snow.....	3 "	15	250.

The following men who live near Huntley will subscribe \$50. each if convinced that a cheese factory located at Pompeys Pillar will improve their present produce market condition. They naturally would prefer to have the factory located near Huntley:- E. T. McDermid, H. J. Hughes, Joseph Ditz, John Harrison, Ed. C. Brown, and S. C. Myers. It is expected that a number of other dairymen which have not yet been seen will be willing to put some money into the enterprise.

In addition to those already reported, the following are planning to put in irrigated pasture next spring:

Name	Address	No. of Acres
M. F. Mink.....	Huntley	3
Morris Stayger.....	Ballantine	4
Peter Schultetse.....	Pompeys Pillar	10
Hugh Gregg.....	Pompeys Pillar	4



30 October, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

Huntley (continued)

Pompeys Pillar Local #55 of Farmers Educational and Cooperative Union of America, consisting of ten members has recently set a good example of community cooperation by buying a second hand threshing outfit. This machine will first thresh for members of the union and then for any others at the usual price, profits if any, will be divided among the owners.

During the week ending October 23, ten farm visits were made and four farmers called at the office. Hog cholera on the project seems to have practically died out, though a suspicious case exists at the experiment farm, however, the trouble there is believed to be due to rheumatism, and the sick animal is being treated for this ailment.

Four samples of milk and four samples of cream were tested in the office during the week. One farmer Mr. Graham, has reduced his herd from six to three cows and discontinued keeping records. As much time as possible is now being devoted to accumulated office work in connection with the dairy records being kept on a dozen different herds.

Project dairy production for the month of September is reported as follows:

Butter-fat.....	3100 lbs.
Price per pound, butter-fat..	26 ¢
Value of butter-fat.....	\$806.
Whole milk.....	400 gals.
Value of milk.....	\$ 60.
Sweet cream.....	310 gals.
Value of cream.....	310.
Butter.....	500 lbs.
Value of butter.....	\$125.
	-----
Total value.....	\$1301.00

Truckee-Carson.

Mr. Cline submits the following report for the week ending October 9:



30 October, 1915.

## DEMONSTRATIONS ON RECLAMATION PROJECTS.

Field Notes.

## Truckee-Carson (continued)

The work in connection with the dairy and pig club, which was begun in March this year, was concluded during the state fair which was held at Fallon, Nevada, September 20-24.

The dairy club and pig club were composed of pupils of the rural schools on the Truckee-Carson Project, ranging in age from ten to fifteen years. During the month of March all the rural schools of the project were visited and the work of the two clubs explained. Typewritten copies of the rules and other explanatory matter was left with each pupil and with the teacher in charge. Every pupil was invited and urged to become a member of one or both clubs. The requirement that each pig club member possess at least one pig and that each dairy club member have access to at least three cows prevented a great many pupils from taking part in club work. When these two clubs were finally organized the application slips showed an enrollment of twelve members for the dairy club and the same number for the pig club. The average age of the members of the pig club was twelve years and two months and the average age of the members of the dairy club was twelve years and nine months.

All of the members of the dairy club took up their work and pursued it for a while. The members were given instructions from time to time in making the Babcock test and keeping the cow records. The bulk of the testing, however, was performed by me, because the members did not have access to testing machines. Toward the close of the time, however, each member was loaned a testing machine in order that he or she might become familiar with performing the test.

When the work of the dairy club was concluded, with dairy cow judging contests and contests in performing the Babcock test, seven out of the twelve original members reported. Most of the members were able to conduct a Babcock test without serious error, and practically all of the members, reporting for the final contest, showed good judgment in judging dairy cattle. The average age of the members who pursued the dairy club work to the end, was twelve years and four months. Some of the pupils who enrolled, dropped the work for sufficient reason, while the others, who dropped out, did so because of lack of parental encouragement. When children are allowed to start work of this nature they should receive sufficient encouragement from their homes to pursue the work to the end; otherwise the children lose one of the principal points in training aimed at in club work, namely, the prosecution



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## DEMONSTRATIONS ON RECLAMATION PROJECTS.

Field Notes.

## Truckee-Carson (continued)

to a successful end of the work once started. Aside from the benefit derived by members of the club, much interest was stimulated in cow testing work in the homes and in the neighborhood in which the members lived. Even though a large percentage of the original club members dropped out, their connection with the club work resulted in considerable good to them.

The members of the pig club were given instructions in selecting their pigs and general instructions in feeding at the outset. Very careful records were kept by most of the members. The pigs that were entered in the club work, were uniform as to quality most of them being purebred pigs.

The work of the pig club was concluded with an exhibit at the state fair of all the pigs belonging to club members. In this exhibit eight pigs were entered, together with the feeding records of each pig. The results that were obtained by each club member, who pursued the work to the end, were very interesting.

It is interesting to note that in connection with the results of the pig club work, that the two pigs that were considered the best individuals at the close of the contest did not win for the members any premium money because of the high cost of production. The results of the pig club work were very instructive to the parents as well as to the club members. The average age of the pig club members pursuing the work to the end was twelve years and seven months.

The state fair board set aside premium money for each club as follows: First prize, \$5; second prize, \$3, and third prize, \$2.

It is hoped that if similar work is carried on another year, more inducement in the way of premiums may be secured for the work.

During the week ending October 16, there were received at this office twenty-seven calls for assistance and eight farms were visited.

Considerable time each week is devoted to herd testing and the testing of separators for the ranchers. It has been found that many of the farm separators are often a source of considerable loss to the owner, sometimes through fault of mechanism, sometimes because of improper cleaning, and often through improper regulation. The ranchers are urged to keep close tab



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DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

Truckee-Carson (continued)

on the work of their separators and to submit samples of skim milk at intervals.

In cooperation with the State University of Nevada, I selected samples of alfalfa hay from each of three cuttings and all from the same plat of ground and sent the samples to the University to have chemical analysis made of them. It is quite generally believed by feeders that the first, second and third cuttings of alfalfa hay have different feeding values. An effort will be made to determine whether the chemical analysis will bear out the contentions of feeders. Other samples will no doubt be taken from time to time for purposes of analysis.

At this time of the year large flocks of sheep and herds of cattle are feeding their way into this project to be fattened for market or fed through the winter. The price received for hay when fed out by the ranchers to stock is ranging from five to six dollars a ton for contracts made thus far. The price offered for baled alfalfa hay f.o.b. Fallon is \$8.50 per ton. The yield of hay throughout the project has been less than the normal yield. This decrease in yield was due largely to the unfavorable weather conditions when the first crop was growing.

In my endeavor to secure a market for the poultry, which will be ready for the Thanksgiving holidays, I issued a circular letter addressed to all the ranchers of the project asking for a statement of the number of turkeys, chickens, ducks and geese that would be offered for sale and the time that they will be ready for market. I expect to keep this information on file in the office for parties interested and also to send copies to commission houses and dealers. This same plan was carried out last year and it resulted in drawing considerable attention to the poultry supply of the Truckee-Carson Project.

The Churchill County Eagle, issue of October 16, contained the following article by Mr. Cline: "Dairy Industry on the Truckee-Carson Project, Making Rapid Strides."

"Since October, 1913, when definite efforts were begun for developing the dairy industry here, the dairy business has increased about four fold. The production of the dairy cattle, that are now on the project, is not at present what should be obtained from the present cow population. This may be attributed largely to the fact that most of the cattle have not been on the project one year yet, and have not become accustomed to their new



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## DEMONSTRATIONS ON RECLAMATION PROJECTS.

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## Truckee-Carson (continued)

surrounding and the change of climatic conditions. These animals should show a very material increase in production, when they have become acclimated and have had time to freshen under their new conditions.

"Practically all of the output of dairy products in this valley is from animals which have been imported. The new generation of heifers has not had time to freshen yet except in a few cases. It is reasonable to suppose that there are sufficient dairy females on the project, including imported animals and their offspring, to easily double the present output of dairy products, when immature females are allowed to come into production even though no more importations be made.

"By the time that the present offsprings of our imported animals come into production our imported stock will in most instances be in better producing condition. In addition to this growth in production additional importations are being made each month by individual ranchers.

"The sentiment for more and better dairy stock is all that could be asked for. Within the past six months there has been a considerable number of high class dairy bulls imported. These animals are bound to increase the efficiency of our dairy herds in a way that can not be understood except by those who have been able to see the results of pure bred bulls on grade herds. It will be interesting to note the growth of the dairy industry from the following report taken from the records of the Churchill County Creamery.

Year	Month	Pounds, fat	Average price per pound	Total Amount
1913	Oct.	7021	35.60	2500.10
"	Nov.	7129	32.95	2349.00
"	Dec.	8627	31.30	2701.00
1914	Jan.	10204	30.01	3063.00
"	Feb.	10366	27.05	2815.00
"	Mar.	13793	22.80	3145.00
"	Apr.	14916	23.06	3440.00
"	May	16414	23.83	3912.00
"	June	15913	24.01	3823.00

(continued)



30 October, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

## Truckee-Carson (continued)

Year	Month	Pounds, fat	Average price per pound	Total Amount
1914	July	13635	24.66	3363.00
"	Aug.	13032	27.85	3629.00
"	Sept.	13345	30.25	4038.00
"	Oct.	14712	30.34	4465.00
"	Nov.	13991	31.82	4453.00
"	Dec.	15220	29.30	4466.00
1915	Jan.	15703	28.03	4403.00
"	Feb.	14887	28.40	4229.00
"	Mar.	17927	23.82	4271.00
"	Apr.	17905	23.05	4128.00
"	May	21809	23.48	5135.00
"	June	24767	24.88	6164.00
"	July	26646	26.7	7121.66
"	Aug.	26668	27.6	7360.36
"	Sept.	27436	27.13	7443.57

It will be noted from the table that the highest prices for butter-fat have always been during the fall and winter months. This should be taken into consideration when breeding cows. If the cows are allowed to freshen in the fall they will give the greatest flow of milk when the price for butter-fat is the highest and their dry period will come when weather conditions are least favorable for dairying."



6 November, 1915.

## WESTERN IRRIGATION AGRICULTURE.

## FIELD NOTES.

## Scottsbluff.

During the week ending October 23 much of the time was taken up with hog work and getting pens in shape for beginning the feed operations with the lambs. Several days were put in hauling corn from Scottsbluff. Of course, one load only could be hauled per day by each team. The weather has been ideal for all of this work.

Now that all of our feeding work is well under way, we hope to begin the sugar beet harvest next week, October 25.

Several days ago a potato buyer was in this section trying to locate several carloads of early Triumphs. This variety of potatoes was grown by a number of farmers several years ago, but as there was absolutely no market for this variety, culture of it was abandoned. This year, the buyers are offering from 50 to 60 cents per bushel and only 25 and 30 cents per bushel for Eurekas and Pearls. They were not able to tell us why the market has changed so in regard to this variety. The only thing that they were able to tell us was that there was a better demand for early Triumphs. Upon further investigation among our store keepers, we have found that the local consumers are prejudiced against Pearls; the variety that has heretofore been the main crop of potatoes in this section. It would be interesting to take some time and interview some of the housekeepers and find out why they have changed their viewpoint in regard to varieties.

The weather continued nice throughout the week ending October 30.

We began the sugar beet harvest, and some of the mangels were harvested during the week. The yields of the mangels this year were very low. This is, no doubt, due to the hail injuring them to a large extent. The yields were as follows: Yellow Globe, 25.6; Golden Tankard, 14.5; Long Red, 18.2; Half Sugar, 22; and Danish Sludstrup 18.4 tons per acre.

Turnips that were seeded in the orchard about 7 days before the storm are yielding 7.21 tons per acre. We are not able to give any yield of the sugar beets at this time.

Some of the men were busy getting the lamb feeding yard in shape, as some changes had to be made from the original yard plans.



6 November, 1915.

WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

Belle Fourche.

During the week ending October 30, the maximum temperature was 79, and minimum temperature 31.

The fall plowing in Fields A and B was completed during the week. The alfalfa in the rate of seeding test in field I was also plowed.

All of the corn plats are now husked, the only corn still remaining being that in the large field in O.

All of the corn and stover in B and part of that in A was hauled in and weighed the latter part of the week.

Results from the sugar beet samples sent to Brookings and Scottsbluff for the sugar determinations were obtained. The samples sent to Scottsbluff averaged .2% higher in sugar content than those sent to Brookings. The results obtained at Brookings are used in the table.

Yield of Beets, 1915.

Rot. No.	Plat No.	Pounds per Plat	Tons per acre	% Sugar	% Purity	Pounds sugar per acre	Stand per acre thousands	Weight per beet ounces
2a	I 45	2310	4.6	16.7	86	1327	31	4.8
2	III 30	3100	6.2	18.6	93	2145	31	6.4
18	I 24	4410	8.8	18.2	91	2922	29	9.7
20	26	6120	12.2	16.9	85	3517	29	13.5
21	28	7990	16.0	16.4	87	4560	30	18.9
22	30	4550	9.1	18.0	92	3014	30	9.7
23	32	5910	11.8	17.5	90	3723	30	12.6
30	18	3670	7.3	17.1	88	2209	30	14.1
31	21	6610	13.2	16.9	89	3977	30	14.1
32	III 12	3390	6.8	17.9	99	2403	33	6.6
40	I 3	5510	11.0	19.0	95	3978	28	12.6
42	7	3500	7.0	19.0	91	2421	26	8.6
60	14	4700	9.4	17.5	92	3027	28	10.7
61	II 18	5470	10.9	17.5	92	3523	26	13.5
62	12	4140	8.3	17.7	93	2726	31	8.6
66	28	2530	5.1	17.9	92	1667	28	5.8
Maximum		7990	16.0	19.0	99	4560	33	18.9
Minimum		2310	4.6	16.4	85	1327	26	4.8
Average		4619	9.2	17.7	91	2946	29	10.2



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WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

Belle Fourche (continued)

Yield of Potatoes, 1915.

Rotation No.	Plat No.	Yield		Marketable Percent	Stand thousands per acre
		Pounds per plat	Bushels per acre		
4a	I 47	1290	86.0	84.9	5.61
4	III 31	2135	142.3	84.4	7.82
20	I 27	1530	102.0	91.4	5.35
21	29	2880	192.0	90.6	5.49
24	35	1670	111.3	92.0	5.76
25	37	2520	168.0	91.7	5.40
26	39	1680	112.0	87.5	5.85
27	41	1000	66.7	81.1	4.31
30	I 16	880	58.7	81.4	5.49
31	19	2060	137.3	93.0	5.45
40	2	1410	94.0	86.4	5.49
44	III 20	2160	144.0	88.0	5.76
60	I 12	1580	105.3	87.1	5.47
61	II 16	1730	115.3	88.2	5.68
<hr/>					
Maximum		2880	192.0	93.0	7.82
Minimum		880	58.7	81.1	4.31
Average		1752	116.8	87.7	5.64

San Antonio.

The maximum temperature for the week ending October 30th was 89, minimum 49, and greatest daily range 39. The entire week was clear, the records showing a clear sky at time of making all meteorological observations.

Plowing of field C-5 was completed, and plowing of C-3 was started. Cowpeas on field C-3 were piled and those in the variety test of beans on B-4 were harvested. Burning of cotton stalks on the rotation plats was completed. Some weeding was done on the rotation plats and on other fields. Cultivation of the orchards which was started last week was completed.



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## WESTERN IRRIGATION AGRICULTURE.

Field Notes.

## Truckee-Carson.

During the week ending October 23 two types of individual hog-cots were constructed. The "A" shaped house was made with floor 6x8 feet. The cost was as follows:

227 feet common pine @ \$27. ....	6.15
2 pairs of hinges.....	.40
nails.....	.30
labor, one day.....	2.00
	<u>\$8.85</u>

The other type of house was built with vertical sides 2'6" high. It was built without a floor. The dimensions were 7x8 feet. One half the roof was hinged to provide for ventilation and the entrance of sunshine during fair weather. The cost was as follows:

246 feet common pine @ \$27. ....	6.65
2 pairs of hinges.....	.40
nails.....	.30
labor, one day.....	2.00
	<u>\$9.35</u>

If a floor had been built into this house it would have increased the cost by \$1.95 making a total cost of \$11.30. It would seem from this that the "A" shaped house is more economical to build although it may not be so convenient as the other because of the absence of the hinged roof which allows easy access and better ventilation.

During the week ending October 16 all pigs, including those which had previously been on the pasture experiment were fed dry alfalfa hay and a 2% ration of barley. During the following week ending October 23 the barley ration was increased to 3%.

The 10 pigs which had been on the pasture during the summer were divided into two lots. Lot 1 included the heaviest Durocs and the three heaviest Berkshires and lot 2 includes the two lightest pigs of each breed. The two lots are fed separately. Lot two was not weighed weekly after removing from the pasture. From the results of the first weeks feeding it would seem that good profits can be secured, even with this comparatively heavy ration. The net profit over the cost of barley and hay was \$1.52 from the six pigs. The net profit from Mr. Satten's pigs was only 24 cents on the 3% ration as compared with 44 cents the previous week on the 2% ration. The detailed results are shown in the following table:



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WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

## Truckee-Carson (continued)

Lot. 1.	Week ending October 16.	Durocs	Berks.	Durocs and Berks.	Sutten pigs
Number of pigs.....		3	3	6	2
Initial weight.....pounds		335	255	590	279
Final weight..... do		348	272	620	295
Total gain..... do		13	17	30	16
Daily gain..... do		1.9	2.4	4.3	2.3
Daily gain.....per cent		.55	.93	.71	.80
Barley fed.....pounds		47	36	83	39
Cost of barley @ 1-1/2¢.....dollars		.71	.54	1.25	.59
Value of gain @ 7¢..... do		.91	1.19	2.10	1.12
Profit over cost of barley..... do		.20	.65	.85	.53
Hay fed.....pounds		45	35	80	30
Value of hay @ \$6. a ton.....dollars		.13	.11	.24	.09
Net profit..... do		.07	.54	.61	.44
Lot 1.	Week ending October 23				
Number of pigs.....		3	3	6	2
Initial weight.....pounds		348	272	620	295
Final weight..... do		378	295	673	313
Total gain..... do		30	23	53	18
Daily gain..... do		4.3	3.3	7.6	2.6
Daily gain.....per cent		1.19	1.17	1.18	.85
Barley fed..... pounds		73	57	130	62
Cost of barley @ 1-1/2¢.....dollars		1.10	.85	1.95	.93
Value of gain @ 7¢..... do		2.10	1.61	3.71	1.26
Profit over cost of barley..... do		1.00	.76	1.76	.33
Hay fed.....pounds		46	35	81	30
Value of hay @ \$6. per ton.....dollars		.14	.10	.24	.09
Net profit..... do		.86	.66	1.52	.24

(continued on next page)



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WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

## Truckee-Carson (continued)

Lot 2. Four weeks ending October 23.	Durocs	Berks.	Durocs and Berks.
Number of pigs.....	2	2	4
Initial weight..... pounds	165	115	280
Final weight, ..... do	194	132	326
Total gain..... do	29	17	46
Daily gain..... do	1.2	0.7	1.9
Daily gain..... per cent	0.58	0.49	0.54
Barley fed..... pounds	104	75	177
Cost of barley @ 1-1/2¢...dollars	1.56	1.10	2.66
Value of gain @ 7¢..... do	2.03	1.19	3.22
Profit over cost of barley. do	.47	.09	.56
Hay fed..... pounds	66	42	112
Value of hay @ \$6. per ton.dollars	.20	.14	.34
Net profit..... do	.27	-.05	.22



6 November, 1915.

## DEMONSTRATIONS ON RECLAMATION PROJECTS.

## FIELD NOTES.

## North Platte.

On Tuesday of the week ending October 9, 74, 190.5 hogs were weighed up for a short hog feeding demonstration on the farm of Mr. Rohde. These hogs had been running in barley stubble in which there was considerable waste grain. Alfalfa had been sown with the barley last spring, and all together the field made an excellent place for hogs and they had made splendid gains while in the field. When the demonstration was started the hogs were given ground barley in a self feeder and 3 pounds of corn each, daily, also a few mangles. They will be fed about 4 weeks and then sold.

This bunch of 74, 190.5 pounds hogs is the largest bunch of big hogs ever weighed on the steel-yards weighing apparatus. The weighing was done in one hour and 15 minutes without a mishap, and everything went along splendidly. Three were weighed at a time.

During the past summer large quantities of commercial worm powders have been sold the hog farmers on the project. As a whole these powders have given very unsatisfactory results and farmers are very much disappointed. As a rule these commercial powders sold for about \$30.00 per cwt. Many calls are now coming in for a satisfactory treatment for worms in hogs. The charcoal, air slacked lime, sulphur, salt, etc. mixture is being recommended usually.

Recently several reports have come in that beets, (sugar and stock) have been causing trouble when fed to hogs. A number of these reports have been investigated and it has been found that the trouble was caused by starting the hogs on a full feed of beets. In every instance where the hogs have been brought gradually onto beet feeding no injurious results have been found other than a too loosening effect of the bowels.

The latter part of the week a visit was made to Kimball county to spend some time with the county demonstration agent of that county and study swine raising conditions there in both irrigated and non irrigated sections. As a whole very few hogs are raised in that county. The number grown there have been greatly reduced during the past two years because it has not been found profitable there, especially in non irrigated sections. The reason given for being unprofitable, was on account of lack of satisfactory pastures, necessitating the feeding of too much grain. The irrigated section is very small and new and but few hogs are raised there. Alfalfa grows in the irrigated sections with good results.



6 November, 1915.

## DEMONSTRATIONS ON RECLAMATION PROJECTS.

Field Notes.

## North Platte (continued)

During the week ending October 15, one bad outbreak of cholera was found a mile and a half south of Morrill on the farm of Mr. Garrard. This is the first outbreak that has ever occurred in that section of the valley and everyone is at a loss to know where the germs have come from. Mr. Garrard first reported his hogs being sick, to a local veterinarian in Morrill who made two trip to the farm but was unable to diagnose the trouble, although he had the case in charge for a week. Finally the veterinarian called on this office for assistance in diagnosing the trouble and the trouble was easily pronounced cholera. The herd was then in bad condition and only about 50% of the hogs were vaccinated. The other 50% were too far gone to vaccinate.

Another car load of 150 shoats were shipped, during the week to the State Farm Plant at Lincoln. The shoats were consigned by Messrs. Evans and Scrivens Bros. Price paid for shoats \$7.75 per cwt. Mitchell.

Two additional outbreaks of hog cholera were found near Bayard during the week ending October 23. One of the cases had been running for some time when reported and it was thought advisable to vaccinate only a very few in the herd. The second herd was just coming down, and all but a few of the sickest shoats were vaccinated. This is in a different locality from where cholera was found about a month ago near Bayard, but in the same locality where they had cholera about a year ago. It is probable that there have been an occasional small outbreak of cholera in the locality ever since one year ago that have not been reported. For some reason the farmers do not cooperate as they should in eradicating this disease. This is probable the reason why they have had more cholera there this year than in any other section of the valley.

Two days of the week were spent in the vicinity of Bayard trying to get matters lined up to stop the spread of the cholera in that locality.

There are a good many fat hogs in the valley at the present time and the high price quoted for fat hogs is causing many of them to move out.

Old corn has recently been quoted in car load lots at \$1.11 per cwt. The lowest it has been for some time.



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DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

Boise.

The work during the week ending October 16 has included most of two days office work, one day being spent in working on the records of the dairy herd of F. R. Odle of Nampa, for 1914 which had just been received, three visits to inspect or vaccinate hogs, two visits relative to cow testing, one visit to examine calf, dead from unknown causes, four visits to collect pasture data; attendance of two meetings and some miscellaneous work.

On Sunday a call was received from the district leader of one of the hog cholera control organizations, reporting trouble among hogs in his district. The trouble was found to be cholera. The place was quarantined but no treatment was given as the herd was small and all but two of the hogs were visibly sick. These were separated from the rest. On Friday 51 head of shoats were vaccinated for L. L. Young of Nampa. These shoats had been given serum treatment as sucking pigs the last of June when cholera appeared among Mr. Young's herd. They were badly infected, temperatures ranging high. The same day twelve calves were vaccinated for blackleg for Mr. Hammer of Sunny Slope.

N. F. Rees of Deer Flat began keeping records of his cows on the 12th. A. B. Cooper who lives across the road from Mr. Rees expects to begin record work soon. Mr. Rees has Holsteins and Mr. Cooper keeps Jerseys so an interesting time is anticipated. Mr. Odle whose 1914 records have just been received has a mixed herd with a registered Holstein sire. He has been keeping partial records for some time and his 1914 records are not quite complete, though nearly so. Work on the records is not yet finished.

There have been numerous calls for blackleg vaccine recently. The disease has been quite severe in some districts, one man having lost six out of ten calves within a few days. One calf which probably died from blackleg but which did not show typical blackleg symptoms, showed, on post mortems, some indications of anthrax in the character of the blood and condition of the spleen. Specimens of these were taken to the State Bacteriologist for determination but no report has yet been received. As no other cases have developed, it is probably certain that the trouble was not anthrax, although a prominent veterinarian asserted that the conditions found were not caused by blackleg.



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DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

## Boise (continued)

By request the meeting of the Directors of the County Farm Bureau on Monday P. M. The topic of especial interest was the prohibition by the Governor of the State of the importation of anti-hog cholera serum. Nothing definite was done. On Tuesday P. M. the Water Users' Association meeting was attended. The cooperative grazing plan was discussed, but the plan is still in only the formative period and some opposition and a great many difficulties have developed.

The work of the week ending October 23 has been largely with hogs and pastures. Though only two small herds have been treated, several others have been visited on suspicion. The cholera situation is not quite as favorable as it has been for some weeks but the disease does not seem to spread and generally appears in a chronic form which develops slowly.

Considerable time has been devoted to the collection of data on pastures. Definite data are found to be lacking in most cases, but with a sufficient number of visits something of value should be gathered. The attitude of pasture owners toward pasturing as compared with dry lot feeding is almost universally favorable.

## Minidoka.

Mr. E. F. Rinehart submits the following report for the week ending October 16:

Recently there has been a slight increase in the interest in dairying on the Project. In spite of the fact that the best herds on the Project are Jerseys there is considerable prejudice against the Jersey. The dual purpose illusion is so attractive that the big majority of farmers are seeking cattle of this type. Both Holsteins and Shorthorns are popular as dairy cattle although the most popular cow on the Project today is the Shorthorn.

At a sale attended this week, a grade, dairy Shorthorn, nine years old was sold for \$141.50. The next cow sold was a grade Jersey, five years old, and of good conformation. Considering the age she was worth considerably more than the Shorthorn but was sold for \$66. Many of the cattle sold were raised on the range and were very much stunted, particularly in the case of the Jerseys and Holsteins. Cattle of this class sold as follows:- Jerseys \$25



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## DEMONSTRATIONS ON RECLAMATION PROJECTS.

Field Notes.

## Minidoka (continued)

to \$40, Holsteins \$65 to \$80 and Shorthorns \$70 to \$120. Considering the type of cattle offered these prices are very high.

At a second sale attended the grade Shorthorns sold in many cases for higher prices than the registered Shorthorns. This can be explained only by the fact that the registered cattle were of the beef type and had not the udder development of the grades which were of the dairy and dual purpose order but were superior in every other way.

A call was received at Burley Thursday morning from Mr. Hite of Rupert who had five spring shoats sick. They were visited and temperatures taken. All symptoms were those of cholera but as the shoats weighed around 125 pounds each none were killed for diagnosis. The next day at noon, at the farm of Mr. Schultz a long distance call was received from Mr. Hite stating that three of the hogs died. An investigation that afternoon showed cholera to be present. One shoat died while the drive was being made to Rupert, one died that night and another the next day. One hundred and fifty-eight hogs were vaccinated on Saturday.

Report for week ending October 23.

Investigations of three calls received Sunday showed cholera to be present at two places. At Mr. Wysong's six fat hogs were found dead. Several others were so sick they could hardly stand up and could be made to move but a short distance. Cholera was also found on the farm of Mr. Randolph, Secretary of the North Side Water Users' Association. Both Dr. Henderson and Dr. Davis came up from Twin Falls and both herds were vaccinated on Monday.

Dr. Davis was called to Buhl on Tuesday morning. Cholera was found to be present on the farm of Mr. Clontz, a neighbor of Mr. Randolph. That afternoon cholera was found in the View District on the South Side where the disease had been in January and August. A call Thursday morning to the farm of Mr. Dement, a neighbor of Mr. Clontz at Rupert, showed the trouble to be due to an improper system. A call that noon to Burley showed cholera to be present at the farm of Mr. Tames, also in the View District.

There are now three cholera infected districts on the Minidoka Project. Up to the outbreak a week ago all had been declared free. Two of these districts have been infected before while the other is over four miles from any former infection.



6 November, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

## Minidoka (continued)

The cholera situation is regarded as much more serious in the View District than in either of the Rupert Districts. The farms here are all fenced and the farmers are very careful about going near the disease. This is so much the case that it has been difficult here to get help with the vaccination. On the other hand the View farmers do not seem to fear it. Several called, coming directly into the hog lots, to see if they could get their herds vaccinated as they understood that the Government would do it free of charge. Hogs in that section run at large, fattening in the beet, potato and grain fields. They are marked by different brands and are not often seen by the owner. One case was found where the pigs were one and a half miles from home. Much the same trouble exists as did at Marshfield last fall when there was so much trouble. The Marshfield country is now well fenced and the popular sentiment is against the man who lets his hogs run at large. In View it is the other way and apparently much educational work will have to be done in this district. It is planned to carry on this educational campaign similar to the one carried on in the Marshfield country last fall.

## Tieton.

Sixty-eight cattle belonging to five herds were vaccinated for blackleg during the week ending October 23. Three of these herds were collected at one farm for vaccination and the other two were done separately. Three demonstrations were given of the use of the blackleg vaccinating outfit in preparing the powered vaccine, supplied by the Bureau of Animal Industry through the State Veterinary, for use and administering the same. The men for whom this work was done plan to buy two of the outfits cooperatively.

Seventeen milk samples were tested in two herds and one farm survey was made. A two hour conference was had with Mr. Bowman, Principal of the Tieton School in regard to cooperative cow testing and club work to be carried on by the school and this office.



6 November, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

## Tieton (continued)

Considerable interest has been manifested in a suggested outline of a Project Fair, to be held in about four weeks. With the assistance of Messrs. Tiffany and Finley of the U. S. Reclamation Service, each of whom offered the use of an automobile free of charge, nine Tieton farmers were taken to visit the corn and hog show at Prosser. The party spent one-half hour at Mr. Norton's twenty acre poultry and dairy farm and at Mr. Davis' high class dairy farm on the return trip. Mr. Norton whose farm is at Grandview on the Sunnyside Project, furnishes an example of what can be done on a small unit. In 1914 his 450 hens (white leghorns and white orphingtons) gave a gross income of \$1100. His estimated expenses for feed, etc. were \$500. during the same year. This year he has 600 hens of producing age and a number of younger fowls and culls which he will market. He has raised a number of turkeys but will discontinue turkey raising this year. Mr. Norton began dairying with one cow and his herd of eight, save two, are the progeny of that old cow. He has sold two inferior heifers and has a number of steers in the feed lot at present.

The farm produces practically everything that Mr. Norton feeds. He grows winter wheat and roots for the poultry. As soon as the winter wheat is harvested, he plants corn for silage. A part of the alfalfa hay is ground at a nearby mill. Mr. Norton estimates that his jersey cows consume 15 pounds of ground alfalfa hay and 30 pounds of corn silage per day. He attempts to feed this ration all the year. Some alfalfa hay is fed in out-door feed racks during the summer.

Ten young pigs were bought last spring. These have been brought to about 160 pounds each with alfalfa hay and cull squashes, pumpkins, cantelopes, fruit, etc., which would otherwise have been wasted. Two weeks grain feeding will now put them in excellent market condition.

Mr. Davis' dairy farm was selected for a visit because of the high class of the Holstein herd. Mr. Davis began dairying some fifteen years ago with one pure bred Holstein cow. He is now milking twenty-five pure bred animals and has the young stuff from these cows. An interesting feature of Mr. Davis' management is that the calves are fed on skim milk, alfalfa hay and a little grain after they are four weeks old. The two year olds which have been grown on this ration are well developed and those that are milking give promise of becoming good producers. Inasmuch as Mr. Davis' cows are on official test the principle dairy ration, consisting of silage, alfalfa, dried beet pulp, ground oats, ground



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DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

Tieton (continued)

barley, soy bean meal and wheat bran, is not suitable to Tieton farm dairies.

Forty-four cattle in two herds were vaccinated for blackleg during the week ending October 30 and two demonstrations were made in the use of the vaccinating outfit. Four calls for assistance in regard to dairying, hog raising, silage and barn plans were received. The milk of one herd of six cows was tested for butterfat.

Three calls were received in regard to obtaining the tuberculin test under the State Appropriation for that work. A customary procedure with these calls is to have the farmer fill out an application for the test which application is then forwarded to the State Department of Agriculture. To facilitate testing on the Tieton Project, assistance has been offered to the State Veterinarian in the way of transportation on the project and attempting to send in applications in community groups.

The Reclamation Service has begun their annual crop survey. Blank forms for data for use in this office have been supplied, and will be filled out in connection with the Reclamation survey.

Truckee-Carson.

During the week ending October 23, twenty-five phone calls were received at the office, eight office visits were made and seven farms were visited in answer to requests.

During the past week much trouble has been experienced with impaction of dairy cattle, also bloat. This is due to the fact that most all of the herds of cattle have been recently turned on the alfalfa stubble fields, and in many cases the cattle have been allowed to gorge themselves on the late growth of alfalfa. Many cases of impaction might be remedied easily, if they were taken in hand when first noticed and a full dose of Epsom or Glauber's salts were administered along with a large enema of 4 or 5 gallons of warm water with 4 ounces of glycerine and 2 ounces of turpentine added. I have used this treatment a great many times with good results. However, when the case has gone too far for this treatment, as may be determined by symptoms and history of the case, or if the case does not yield to the first treatment, a different method of treatment is pursued with the expectation that two to four



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DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

## Truckee-Carson (continued)

or five days may be consumed in treatment before the impacted mass is moved. The principal parts in this treatment consists in keeping the animals away from any kind of feed, ~~inducing~~ the animal to drink all the water possible, administering intestinal stimulants and disinfectants followed by a purgative. Frequent enemas are very important. Salol in dram doses have given good results as an intestinal disinfectant. Fluid extract of Nux Vomica in one half to one dram doses given with the salol every three hours answers well for an intestinal stimulant. It is very important to keep the contents of the rumen, which is the organ most apt to be affected, from gaseous fermentation or putrefaction, while efforts are being made to cause evacuation. The above treatment should be carried out until movements of the bowels can be heard by placing the ear to the side of the animal. Sometimes this takes considerable time. After peristalsis has been sufficiently stimulated, then a full dose of physic is administered. For this I usually recommend linseed oil. I have also found that one or two ounces of oil of turpentine is valuable in connection with the oil. It helps to keep down gaseous fermentation, stimulates peristalsis and also acts as a disinfectant. Radical purges have no place in the treatment of bad cases of impaction in cattle. If the owner of the animal will be persistent in the above treatment, he may feel quite sure of a favorable outcome. I expect in the near future to issue a circular letter on the subject of impaction, because the farmer should be familiar with the symptoms and treatment of this difficulty, which is so common under our conditions.

During the past week an importation from Iowa has been made consisting of one registered Holstein calf and one registered Holstein calf.

The Churchill County Eagle of September 30 contains the following article by Mr. Cline:

"Hogs need Shelter on the Truckee-Carson Project.

"Although the climate of the Truckee-Carson Project is exceptionally adapted to stock raising, it should not be taken for granted that all classes of live stock can be successfully handled here, throughout the year without shelter. This applies perhaps more to hogs than to any other class of animals. Because of the lack of hair to protect the hogs body, he suffers from intense sunshine as well as from severe cold weather, especially stormy weather. Since the hog does not perspire, he has no natural means of cooling his body in hot weather. For these reasons the hog requires shelter



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DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

Truckee-Carson (continued)

in summer and in winter.

"Hogs, especially pigs, are very susceptible to colds in the head, sore throat, pneumonia and such other ailments as result from exposure, to stormy weather, cold and damp sleeping quarters and the breathing of dust and dirt. Very often unthrifty conditions in hogs are noticed under improper housing conditions. This lack of thrift is very often due to chronic catarrh, pneumonia, sore throat etc.

"Considerable loss was experienced last winter on the part of several ranchers from what is commonly called "Quinsy" or laryngitis. This was caused by forcing the hogs to sleep on the cold ground without protection and by allowing them to breathe manure-laden dust, and permitting pigs to pile up during cold nights thereby getting too warm, and subsequently coming out in the frosty morning for feed. Throat trouble in little pigs is also often brought on by allowing them to get their heads and throats wet in the watering places when the weather is very cold. The conditions above described very often result in severe attacks of inflamed and swollen tonsils, pharynx and larynx, these organs being very closely associated. These conditions invariably cause difficult breathing and swallowing. Very often unless the animals are given very prompt attention they die of suffocation. In milder cases the animals refuse to eat because of difficulty in swallowing. Adequate shelter free from draughts, dampness and dust is the best solution for these troubles. Many pigs and larger hogs died during the last winter from the ailments described, before any relief could be given them.

"The affected animals may seem to recover from their difficult breathing and swallowing during the warm part of the day and the owner is led to believe that the animal is on the road to recovery, and gives no treatment or change in housing conditions. Usually the low temperature of the following morning has aggravated the case sufficiently to cause the larynx to swell shut and the animal dies of suffocation or is found in a very distressed condition. Prompt attention is very essential. Otherwise unexpected and sudden losses may result."



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## PERIODICALS.

Question has recently arisen as to the desirability of preserving certain periodicals sent to field stations. After consideration the Library has decided that the following publications, subscriptions for which have been made during the past year, shall be considered as inventoriable and the copies permanently retained:

American journal of veterinary medicine.

American veterinary review.

Veterinary review.

American chemical society journal.

Botanical gazette.

Country life in America.

These files should, therefore, be kept intact and reported upon the next inventory of books. If at the end of the year, or any convenient period, it seems undesirable to afford them longer storage at the field stations, they may be forwarded to Washington. Hereafter the Library will indicate upon the requisition the publications which should be accounted for and the field representatives will be advised accordingly.

## FIELD NOTES

## WESTERN IRRIGATION AGRICULTURE.

## Umatilla.

During the week ending October 23, the maximum temperature was 76, minimum temperature 31, and precipitation .05 inch.

The work of the station for this week was confined to threshing sorghum varieties and to working up records of experiments.

During the week ending October 30, the maximum temperature was 74, minimum temperature 31, and precipitation trace.

The green weight, weight of cured stover, and grain yields of the corn and grain sorghum variety test are given in the table following:



WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

Umatilla (continued)

Corn	Yield per Acre		
	Green Weight pounds	Stover pounds	Grain pounds
Learning (1).....	6829	2516	224
Minnesota 13 (1).....	5509	1375	200
Pride of North.....	7800	3200	336
Reids Yellow Dent.....	7800	3040	324
Stanford White Flint.....	6680	2500	160
Silver King.....	6000	2290	760
Stowell's Evergreen.....	5680	2100	324
<u>Sorghum Varieties</u>			
Dakota Amber (2).....	10413	6944	1502
Dwarf Blackhull (2).....	8346	4308	734
Dwarf Hegari (2).....	8939	4654	1401
Feterita (2).....	7172	3785	558
Red Amber (2).....	19658	10653	1071
Freed Sorgho.....	8622	4215	627
<u>Corn</u>			
Pride of the North.grown with sorghum.....(1).....	7764	2994	514

(1) Average of two plats.      (2) Average of four plats.

Of the corn varieties, Pride of the North and Reids Yellow Dent are the best for ensilage on account of their uniformly heavy production of stover and of grain. Silver King is by far the heaviest grain producer, however, it has been tried but once.

Dakota Amber and Dwarf Hegari are the best sorghum varieties according to the above table, but Feterita is better in comparison if it were possible to get equally as good a stand. It makes a larger and thicker growth and produces an abundance of grain.

Red Amber is a very rank growing variety, but has a small proportion of foliage to stalk, and also yields less grain in proportion than the other varieties. The seed is small. Better stands were received with this variety than with any other that has been tried. It is promising and will be given further trial.



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WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

## Unatilla (continued)

In contrast to the very light yields of corn produced on the soil of the farm it is of interest to note that estimates recently made of the yield of three fields on that part of the Project which is influenced by a high water table the yield ran from 102 to 109 bushels per acre.

The sorghum varieties are much better adapted to new and sandy land than are those of Indian corn.

## Huntley.

Harvest of sugar beets and potatoes was completed during the week ending October 30. Weather conditions have been very favorable during the past three weeks and the harvest of beets on the project is well advanced.

The market for potatoes is very poor. Potatoes are being bought in only small quantities to supply the local demand, at 50¢ per cwt. delivered in Billings.

Cow Pasturing Test.

During the season, a pasturing test in which two cows were pastured on three one-quarter acre plats in field A-II planted to mixed grasses, has been conducted. Plat A-II-1 was planted in 1913 to a mixture of Bromus Inermis, orchard grass, perennial rye grass, meadow fescue, tall fescue, Italian rye grass, Kentucky blue grass, tall oat grass, alsike clover and white clover. The mixture of Plat A-II-2 was the same as on Plat 1, with the addition of two pounds each of alsike and white clover per acre. Plat A-II-4 was planted in 1911 to a mixture of brome grass, orchard grass, red top and timothy. In the test, plats 1 and 2 were placed in one enclosure and pastured alternately with plat 4, the cows being on plat 1 and 2 for periods of ten days to two weeks and on plat 4 for from 5 to 7 days. Each part of the pasture was irrigated seven times during the season. Water was applied to each part of the pasture, as soon as the cows were removed. One-half of each plat was top dressed with manure, at the rate of about 10 tons per acre, in the fall of 1914 and the growth of the grass on the manured part was noticeably better than on the part not manured.



13 November, 1915.

WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

## Huntley (continued)

The pasture period extended from April 28 to October 8. During this time, the cows were off the pasture for 14 days during stormy weather, to prevent injury to the pasture by tramping when the soil was wet, so that they were actually on pasture only 150 days. On the days that they were off pasture, the cows were fed 25 pounds each of alfalfa hay per day. Until September 1, no hay was fed while they were on pasture. During the latter part of August the pasture did not make as rapid growth as earlier in the season and from September 1 to the end of the pasture period, they were fed 15 pounds each of alfalfa hay per day, in addition to the pasture.

The cow "Annie" calved in October 1914, so that she was giving milk at the beginning of the test. She dried up in September, 1915 and calved again on October 15. She was given a supplemental feed of 6 pounds of chopped corn per day, from the beginning of the test to June 1. The cow "Nellie" freshened on June 25, so that she was dry during the first part of the test, and was fed no grain until July 1. From June 1 until the end of the test, 6 pounds per day of grain was fed during the first half of each month. During the last half of each month, after June 1, no grain was fed. The grain fed during June was chopped corn. The grain fed during the remainder of the season was chopped corn, oats and wheat of equal parts.

No record was made of the amount of milk produced and no tests made, until June 1. In figuring the returns in the following table, the milk produced by the cow "Annie", from the beginning of the test to that time, is given as the same average daily amount during the first half of June, and the test is given as 5%, which appears to be a fair average.

Both cows in the test were grade Jerseys.



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WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

Huntley (continued)

Period	Milk Pounds		Butterfat				Grain		Hay		Total Value Hay and Grain	Ret. from pasture	Weight of cow end of period
	Total	Ay.D	Test	Amt.	Mkt. price	Val. Dols.	Amt.	Val.	Amt.	Val.			
<u>"ANNIE"</u>													
4/28-30	69.0	23.0	5.0	3.4	26.0¢	\$ .88	18	\$ .22			\$ .22	\$ .66	
5/1-31	713.0	23.0	5.0	35.6	25.0¢	8.90	186	2.32	75	\$ .23	2.55	6.35	
6/1-15	346.5	23.1	6.1	17.6	22.0¢	3.87	90	1.12	75	.23	1.35	2.52	
6/16-30	304.5	20.3	4.8	14.6	22.0¢	3.21						3.21	892
7/1-15	306.0	20.6	5.0	15.3	23.5¢	3.59	90	1.12	25	.08	1.20	2.39	870
7/16-31	318.4	19.9	4.8	15.3	23.5¢	3.59						3.59	884
8/1-15	310.5	20.7	4.6	14.3	24.5¢	3.50	90	1.12			1.12	2.38	910
8/16-31	253.0	15.8	5.4	13.6	24.5¢	3.33						3.33	888
9/1-15	269.2	17.9	5.6	14.1	26.0¢	3.66	90	1.12	225	.68	1.80	1.86	980
9/16-30									275	.83	.83		998
10/1-8									140	.42	.42		1010
Totals	2890.1			143.8		34.53	564	7.02	815	2.47	\$9.49	25.04	
<u>"NELLIE"</u>													
5/1-31									75	.23	.23		
6/1-15									75	.23	.23		
6/16-30													940
7/1-15	414.0	27.6	2.6	10.8	23.5¢	2.51	90	1.12	25	.08	1.20	1.31	886
7/16-31	416.0	26.0	2.6	10.8	23.5¢	2.51						2.51	884
8/1-15	353.0	23.5	2.6	9.2	24.5¢	2.25	90	1.12			1.12	2.13	880
8/16-31	329.5	20.6	3.0	9.8	24.5¢	2.40						2.40	830
9/1-15	356.7	23.7	3.0	10.7	26.0¢	2.78	90	1.12	225	.68	1.80	.98	886
9/16-30	320.0	21.3	3.8	12.2	26.0¢	3.17			275	.83	.83	2.34	874
10/1-8	168.5	21.1	3.8	6.4	30.0¢	1.92	48	.60	140	.42	1.02	.90	890
Totals	2357.7			69.9		17.54	318	3.96	815	2.47	6.43	11.11	

The table shows that the cows gave a net return of \$36.15 for the pasture, after deducting the value of the hay and grain fed. This is at the rate of \$48.20 per acre. Grain is valued at \$1.25 per cwt. and alfalfa hay at \$6. per ton. It is apparent that the increase in the milk flow during the periods when grain was fed was not sufficient to pay for the grain.



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## WESTERN IRRIGATION AGRICULTURE.

Field Notes.

## Huntley (continued)

In the spring of 1915 an experiment in method of planting pasture grasses was started in field B-V. This field was planted to corn in 1914 and was plowed in the fall of 1914. Seed bed preparation in the spring of 1915, consisted of double disking, harrowing and leveling immediately before planting, which was on April 5th.

The experiment included planting grasses separately and in mixtures, with and without a nurse crop of wheat. The grasses in the test and the rate of seeding per acre, when grown separately, were as follows: *Bromus Inermis*, 14 pounds, orchard grass, 30 pounds, meadow fescue, 14 pounds, Kentucky blue grass, 16 pounds, perennial rye grass, 14 pounds, tall fescue, 14 pounds, and white clover, 6 pounds. The plats planted to the separate grasses were 6x170 feet in size. The grass mixtures, both with and without nurse crop, were on one-quarter acre plats. The seeding rates of the grasses in the mixtures were as follows: *Bromus Inermis*, 6 pounds, orchard grass, 5 pounds, meadow fescue, 4 pounds, Kentucky blue grass, 5 pounds, perennial rye grass, 6 pounds, tall fescue, 4 pounds, and white clover, 2 pounds. The rate of seeding of wheat as nurse crop was one bushel per acre. Variety of wheat, Pringles Champion. The grasses were seeded with a double disk grain drill, as shallow as the drill could be made to run, the seed in the mixture was all planted at the same time through the grain hopper, excepting the clover seed, which was planted through the alfalfa attachment. In each of the separate grasses and in the grass mixtures was a plat in which the wheat was cut for hay and another plat in which the wheat was harvested for grain. The yield of grain on the separate grass plats was at the rate of 52.4 bushels per acre, and on the quarter acre plats, planted to mixed grass, was 47.3 bushels per acre. The yield of wheat hay on the separate grass plats was at the rate of 5.6 tons per acre, and on the grass mixture plat was 4.55 tons per acre. The plats planted with nurse crop were not irrigated until after the grain was harvested.

An excellent stand of the grasses without nurse crop, both separately and in mixtures, was secured, except in the case of Kentucky blue grass. These grasses all made good growth during the latter part of the season. On the plats on which the nurse crop was cut for hay a good stand of all grasses, excepting the Kentucky blue grass was secured, and the grasses made a fair growth after the hay was removed. The stand of grasses on plats on which the nurse crop



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WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

Huntley (continued)

was harvested for grain was rather poor, much of the grass having died from drouth during the time when the grain was maturing. It may be that the grasses will recover sufficiently to make a fair stand, but this will not be known until the following season.

Plat B-V-7 was planted on August 26 to a mixture of the following grasses: *Bromus inermis*, 3 pounds, orchard grass, 3 pounds, meadow fescue, 2 pounds, Kentucky blue grass, 3 pounds, perennial rye grass, 2 pounds, tall fescue, 2 pounds, white clover, 1 pounds, and alsike clover, 2 pounds, per acre, making a total of 18 pounds per acre. This plat was fallow during the summer of 1915 and the treatment previous to this time was the same as for the remainder of field B-V. The land was irrigated immediately after planting. The soil was kept moist by favorable rains for about three weeks after planting, with the result that an excellent stand of the grasses was obtained.

Pasturing Test.

Plat B-V-4, which contains one-quarter acre and was planted in April, 1915 to mixed grasses, was pastured the latter part of the season. For this purpose, the plat was fenced in two parts. On August 27, a yearling heifer was placed on the pasture. The pasture period extended to October 30. During this time, the heifer was off pasture 8 days, because of stormy weather, so that she was actually on pasture 58 days. The weight of the heifer at the beginning of the test was 616 and at the close was 730, making a gain of 114 pounds. During the time off pasture, she was fed 20 pounds of alfalfa hay per day.

Both parts of the pasture were irrigated on August 10, and one-half of the pasture was irrigated on September 2. This was all the irrigation given during the season. At the time the test was started the grasses averaged about ten inches in height, and had formed a heavy sod.

Irrigated Rotation Report.

All potato and beet plats are harvested. Fall plowing nearly completed.

The yields secured from the potato plats are shown in the following tables:



13 November, 1915.

WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

Huntley (continued)

Table showing yield and stand of Potatoes					
Rot. No.	Plat No.	Stand Plants Per A.	Pounds Per Plat	Bushels Per A.	Per cent Marketable Tubers
61	K-III- 1	9450	6203	420.0	93.1
60	- 7	7808	5952	396.8	97.1
31	-13	8192	4102	273.5	95.0
40	K-IV- 4	8640	5245	349.6	91.8
25	- 5	7872	5609	373.9	92.8
44	- 14	4160	2847	189.8	96.6
30	- 15	7360	3384	227.6	92.8
4 cc	-21	7828	3480	232.0	96.2
20	K-V- 6	7616	5250	350.0	94.9
24	- 10	8640	3822	273.4	96.2
26	- 12	8704	4265	251.0	95.0
21	- 14	8384	5798	386.5	93.4
27	- 19	7232	2991	199.4	91.5
Maximum		9450	6203	420.0	
Minimum		4160	2847	189.8	
Average	1915	7837	4535	301.8	94.3
do	1914	5296	2516.5	167.8	83.9
do	1913	4242	3190	212.69	95.4
do	1912		3666	244.3	

Table showing preceding crop and averages obtained from the various sequences in 1915 and a comparison with the same averages in 1914.

Preceding Crop.	Number of Plats	1915			1914
		Highest Yield	Lowest Yield	Average Yield	Average Yield
Alfalfa.....	4	420.0	189.8	339.0	207.2
Corn.....	1			251.0	204.5
Oats (manure)...	1			373.9	201.3
Beets (manure)...	1			386.5	176.0
Oats.....	1			273.4	171.4
Beets.....	3	350.0	227.6	283.7	158.5
Potatoes.....	1			232.0	118.3
Oats (rye).....	1			199.4	5.5



13 November, 1915.

WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

Huntley (continued)

The following results were obtained in feeding experiments.

Spring Pigs, Hogging Off Corn.  
Rotation 67.

No. of Hogs	Sex	No. Days	Initial Weight	Final Weight	Total Gain	Daily Gain	% Daily Gain
31	Female	25	88	140	52	2.08	1.90
33	Male	25	89	147	58	2.32	2.04
36	Male	25	81	140	59	2.36	2.18
37	Female	25	86	133	47	1.88	1.70
Total Average			344 86	560 140	216 54	8.64 2.16	

Spring Pigs in Feed Lot, 3 % Corn and Alfalfa Hay.

Lot	Days	No. Hogs	Initial Weight	Gain	Average Daily Gain	% Daily Gain
1	30	4	320	118	4.76	1.06

118 lbs. pork @ 7¢.....\$ 8.26  
 321 lbs. corn @ \$1. per cwt.....\$ 3.21  
 480 lbs. alfalfa hay @ \$6. per T. 1.44 4.65  
\$ 3.61

Spring Pigs in Feed Lot, 3% Barley (Soaked) and  
Alfalfa Hay.

Lot	Days	No. Hogs	Initial Weight	Gain	Average Daily Gain	% Daily Gain
2	20	3	338	58	2.9	.70

58 lbs. pork @ 7¢.....\$ 4.06  
 233 lbs. barley @ \$1. per cwt.....\$ 2.33  
 240 lbs. alfalfa hay @ \$6. per T. .72 3.05  
\$ 1.01



12 November, 1915.

WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

## Scottsbluff.

The digging of the sugar beets with the exception of the field rows on each plat in field K was completed during the week ending November 6. Work was started on the foundation for the new dairy barn.

It requires a large portion of the day for one man to look after the hogs and one man to look after the sheep and the cows. Labor is very scarce at this time, and we will have to try to get along as best we can to finish up this season's work.

The sows have all farrowed, and indications are that we will have about 7 pigs per litter for the fall farrowing.

## Belle Fourche.

During the week ending November 6, the maximum temperature was 79, and minimum 30.

The husking of the corn was completed during the week and all has been hauled in except that in field O. The corn did not mature properly, is of poor quality and probably will be hard to keep.

Most of the field work is completed with the exception of some plowing on the dry land to be used for summer fallow next year. This will be plowed this fall if conditions permit.

There has been considerable more winter wheat seeded on the project than usual this fall. Winter wheat yields fully as well as spring wheat. For this reason it is an advantage to use winter wheat, as it helps to give a better distribution of labor.

Considerable preparations are being made for the feeding of cattle and sheep on the project. A carload of two-year old Holstein heifers was shipped in from Wisconsin during the week.

Messrs. Dillman and Mathews left for Washington on the 4th.

## San Antonio.

The maximum temperature for the week ending November 6 was 86, minimum 58, and greatest daily range 33.

Plowing was continued throughout the week, the plowing of fields C-3 being completed, and plowing of cotton plats in the rotation experiments started. The following rotation plats were plowed: A6-10,



13 November, 1915.

WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

## San Antonio (continued)

B4-19, B5-3, 4, 9, 11 and 17. Cowpeas in the corn and cowpea experiment on field C-3 were hauled in. The second planting of flax in the date of seeding test was made on November 1. Canada field peas in the rotation experiment were planted on November 5 and oats were seeded on November 6. Johnson grass was again hoed from rotation plats and fallow fields. A special effort has been made to eradicate the scattering bunches of Johnson grass from the cultivated fields during the past few weeks, and it is thought that much has been accomplished in that respect.

A complete set of new stakes were made for the rotation experiments during the summer and were put out the first part of the week.



13 November, 1915.

## DEMONSTRATIONS ON RECLAMATION PROJECTS.

## FIELD NOTES.

## Huntley.

During the week ending October 30, arrangements were made with Mr. Myers for a pig feeding demonstration. A number of spring pigs weighing in the neighborhood of 100 pounds are to be weighed up as soon as Mr. Myers is ready to commence feeding them corn, and a record will be kept on these pigs until ready to market. The principal object of the demonstration is to determine something of the cost of finishing hogs on corn. These hogs will have access to a small piece of alfalfa until it fails to furnish good pasture. This alfalfa was seeded last spring and looks as though it would furnish excellent fall pasture for a time.

The total acreage of irrigated pasture contemplated by project farmers as a result of the excellent results obtained from the pasture demonstration at the Experiment Farm, is now 64. The size of the pastures will range from two to ten acres.

Sixteen farm visits and one trip to Billings were made during the week. One public sale was attended for the purpose of assisting Mr. Myers and Mr. Mink in making a selection of brood sows which they expected to buy.

## Truckee-Carson.

During the week ending October 30, 48 calls for assistance were received and sixteen farms were visited and two visits were made to the local creamery. Thirteen visits were made by the farmers to the office.

One of the principal activities of the past week has been connected with the holiday marketing of the turkey and other poultry crop. For the two seasons I have been on the project I have taken a census of the poultry offered for sale during the holiday periods. This information includes the name and address of the rancher, the number and class of poultry offered for sale, and when produce is to be ready for market. As soon as this information is received at the office, it is tabulated and copies sent to reliable commission houses and wholesale dealers. This is done for the purpose of attracting attention to the poultry supply of the project and also to stimulate competition in buying the produce. As a result of this campaign much attention has been drawn to this project and many wholesale and commission houses have sent representatives here to solicit consignments and to look over the available supply. During the past week four representatives have



13 November, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

## Truckee-Carson (continued).

been at work on the Project. Every effort is made to discourage fake and unreliable firms from coming into the territory. Great care is taken in this connection.

It is expected that 6,000 turkeys, and 2,500 chickens, will be offered for sale here during the holidays. The bulk of the poultry will be ready for the Thanksgiving market. The bulk of the shipments are sent out dressed by express to San Francisco and Oakland, California. The express rate to these points is \$1.53 per 100 pounds. My aim in connection with this poultry marketing is to eventually, if not this year, have established on the project a permanent poultry market, where all classes of poultry will be bought and paid for upon delivery to local market. In the past a few of the ranchers have consigned their poultry to unscrupulous firms, and this has resulted in discouraging many growers in consigning their products to commission merchants at a distance. I expect to contribute an article to the local papers in the very near future in which will be incorporated the points that should be known by people who consign poultry to commission merchants and wholesale dealers. This information I expect to obtain directly from our marketing center by correspondence and by talking with representatives of commission houses. This information will include principally requirements for fancy market and when to market. The things that will be considered in this connection are such points as finish, deformities, bruises, torn skin, dirty feet, age and size, empty crops, cooling and packing.

## Minidoka.

Two cases of cholera, one in the Starr's Ferry and one in the Marshfield District, occurred during the week ending October 30. Both were of the virulent type. In the first herd 14 hogs were vaccinated, in the last 141.

Work along the line of the movement to introduce more dairy cattle brought out the fact that as yet there is no desire on the part of the farmers to increase the size of their herds or to enter the business of dairying on a more extensive scale. This is due to the fact, more than to anything else, that there is so ready a sale for hay this year. Alfalfa is now selling for \$6 a ton in the stack. The project is being scoured by buyers but little.



13 November, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

## Minidoka (continued)

is being sold. The most of the hay has now been sold while some in being held for better prices.

The Clover Leaf Dairy at Burley, where records were begun last fall, is the second large dairy where the work was started at that time to sell out a number of the cattle that were not being kept and milked at a good profit. The sale was not well attended and, considering the quality of the cattle and the prices paid at former sales, the prices were low. A grade Holstein bull, pure bred but not registered, could not be sold to the farmers at any price.

On Monday of the week ending November 6, the office was moved to the second story of the Haynes Building, a new brick building facing the public square. A suite of two rooms now comprise the office. The front room, facing the street and the public square, is fitted up as an office room while the back room at the side of the building is equipped as a reading and waiting room and a meeting room for farmers' committees.

The cholera situation is somewhat improved. Of ten investigations made this week, only one was found to be cholera. Of the other investigations, five were found to be due to an improper feeding system, in two herds there were several shoats infected with a trouble corresponding to and being quite similar to typhoid fever in man, a condition frequently found on the project and which seems to be due to the drinking of stagnant water, while in one herd the trouble was found to be due to the fact that the grain was fed on the loose sand, much of the sand having been eaten with the food.

Mr. A. B. Kjosness, County Agent of Power County spent three days on the project assisting in the investigations and the other field work.

## Boise.

The week ending October 30 has been quite largely spent on pasture work. Data on a considerable number of pastures have been secured, although these are not as definite as might be wished.

Four calls have been received to inspect hogs, one of which was referred to the County Agent as it came from out of the project, and one of which has not yet been answered as it was not believed to be serious. Neither of the other cases was cholera, so that no new cases have been found this week unless Mr. McCall finds cholera today.



13 November, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

## Boise (continued)

On Monday a visit was made to the farm where hogs were vaccinated the preceding Monday on suspicion and the trouble diagnosed as cholera by post-mortem examination of an animal killed for the purpose.

Two small herds of dairy cows on which record work has been begun were tested for butterfat.

Two afternoons were spent in attendance at a sale of purebred livestock at Caldwell. This sale was held by the Purebred Livestock Breeders' Association, and organization recently formed in southwestern Idaho and southeastern Oregon. The horse sale was fairly satisfactory. Offerings included Percheron mares and stallions, one Belgian colt and a lot of jacks and jennets.

A great deal of the stuff had reserve bids on it and did not sell, but bidding was good and actual sales made were for good prices.

The hog sale the following day was not satisfactory. The attendance was small and bidding slow, although some of the offerings were very good stuff. Poland-Chinas, Duroc-Jerseys and Chester Whites were represented. A seven months old Poland China boar topped the sale at \$36. Chester Whites sold fairly well while there was no demand for Duroc-Jerseys, only two selling, one of these bringing only \$7.50. This was a fairly good boar about six months old, weighing close to 200 pounds.

Four calls have been received to investigate trouble among hogs during the week ending November 6, and a part of five days have been employed in this way.

On Monday a bad outbreak of cholera was found on the farm of Pierce Trunnell of Wilder who had over 300 head of hogs on hand, a large percentage being almost ready for market. Four hogs were posted and abundant indications of cholera found. The entire herd, except a few which were visibly sick, was vaccinated. Most of two days were occupied at the work as arrangements for handling the hogs were not convenient. Mr. Trunnell lost heavily two year ago and he has had no hogs on his place since then until recently when he bought stock to feed out on smutted wheat. One bunch of six was vaccinated on Saturday on suspicion, no autopsies being held. The other two cases were suspicious but were not diagnosed as no hogs had died and the owners were not willing to kill a hog for post-mortem examination.



13 November, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

## Boise (continued)

Mr. E. L. Chaplin of the U. S. Dairy Division has been in Caldwell this week and some time has been spent with him in securing data relative to the workings of cooperative cheese factories and creameries on and near the Boise project. All of these seem to be in satisfactory condition except the Parma cheese factory, which, through poor product, poor business management or both, has run behind financially, and is in rather discouraging circumstances though still operating. In an attempt to cut down expenses the milk haulers have been taken off which caused the receipt of milk to drop from 3400 pounds daily to only 1900 pounds.

An effort is being made to put the organization on a firm financial basis so the plant can continue as the patrons, generally, seem to favor a cheese factory rather than a creamery.

## Tieton.

Some time was spent during the week ending November 6 in a conference with Messrs. Bowman and Thompson of the Tieton and Cowiche schools, respectively, in regard to milk testing at the schools and work to be taken up by the boys' animal husbandry class. Boys will be encouraged to sample milk from the cows at home each week or month and bring samples to school. They will be taught to perform the Babcock test and to do their own testing at the school as soon as their work is accurate. Records of all cows so tested will be kept in this office.

Seed corn was selectee from the acre of pure bred Silver King corn grown on the Reclamation farm. Sixty bushels of corn was husked from the acre. At least a quarter of the seed planted on this acre last spring did not grow. The corn was planted April 25, was sufficiently matured by September 10 to be out of the way of frost, and was husked October 25 to November 2. The seed selected will be artificially dried and will be distributed to a few selected farmers next spring.

Requests for testing were received from the owners of three herds, aggregating 16 cows. Arrangements have been made to add these herds to the number already on test, upon the agreement of the owners to bring their samples to one place for testing. By so doing, considerable time is saved in making the test and the farmers are brought together once a month for "cow talking".



20 November, 1915.

## WESTERN IRRIGATION AGRICULTURE.

## FIELD NOTES.

## Umatilla.

During the week ending November 6, the maximum temperature was 62, minimum temperature 25, and precipitation .02 inch.

Work of compiling records from experiment work was continued. A ten inch concrete pipeline is being put in across plats (a) and (b) in field C1 for the purpose of carrying a larger head of water to the remainder of the field.

The third Hog and Dairy show held at Hermiston November 5 and 6 was a pronounced success. During the three years since this movement was inaugurated there has been a wonderful advance in the quality of dairy stock and of hogs upon the project and in the surrounding country. The first pure bred bull brought to the district was handled by the Experiment Station. A large number of young cows of excellent standard from this sire were exhibited this year. During the past summer a Jersey Breeders' Association was formed and under its control three blocks of a bull association were formed and as many jersey bulls of the best breeding of the northwest have been brought onto the project.

Great interest is being taken in livestock improvement and the result is very striking, as shown by the unusually rapid advance in quality of livestock throughout the district.

## Scottsbluff.

During the week ending November 13, the men were kept busy doing odd jobs. Some lumber was hauled from town and some hay hauled for stock. With a large large number of hogs that we are feeding, it keeps one man busy a large portion of the day feeding and watering them. The pulling of beets on field K has been completed. Husking corn was started this week.

## Belle Fourche.

During the week ending November 13, the maximum temperature was 57, minimum temperature 15, and precipitation .04 inch.

Series P-II and IV, fall irrigation experiment, were irrigated November 10 and 11. P-V, for depth to which plants can feed was also irrigated.

The balance of the time the men were employed hauling manure, fencing, and plowing.



20 November, 1915.

WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

## Belle Fourche (continued)

In the continuous cropped corn in rotation 6, A-I-49, it is noticed that the yield is very poor. In 1914 this plat yielded the highest of all corn plats in the irrigated rotations. In rotation 32, A-III-10, corn following beets, the corn was very backward in the first part of the season but towards fall very little difference was noticed and the yield is above average for all plats.

The following table shows the results of hogs, pen fed, with corn snapped from rotation 56:

Dates	No. of Days	No. of Hogs	Weights		Gain			Net Return Per A.
			Initial Pounds	Final Pounds	Total	% Daily	Per Day Per Hog	
10/7-10/18	11	7	514.5	661.5	147.0		1.91	\$41.16
10/18-10/23	5	7	661.5	722.0	60.5		1.71	16.94
Total	16				207.5			\$58.10

Gains calculated on the basis of pork at 7¢ per pound.

The gains made are much larger than what was obtained from hogging on rotation 65 and 69, as reported in Weekly Bulletin of October 23. One reason for the larger gain is that this was the best plat of corn and probably the best matured.



20 November, 1915.

WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

Belle Fourche (continued)

Corn Yields in Field A.

1915						
Rot. No.	Plat No.	Yield Per Plat, pounds		Bushels per acre Corn	Stand Thousand per acre	Ratio of Grain to Stover
		Corn	Stover			
6a	I-49	230.8	128	12.8	8.21	1 : .46
6	III-32	579.3	420	32.1	8.54	1 : .60
16	I-23	520.0	430	28.8	8.70	1 : .76
26	I-38	568.8	380	31.6	8.93	1 : .54
32	III-10	513.3	330	28.5	8.59	1 : .55
62	II-10	581.1	420	32.2	8.66	1 : .63
65	III-16	(a)		40.6		
66	II-25	(b)		43.2		
69	II-29	(a)		33.9		
69	II-30	(a)		34.1		
Max.		581.1	430	32.2	8.93	1 : .76
Min.		230.8	128	12.8	8.21	1 : .46
Av.		498.8	351	27.6	8.61	1 : .59

Stover yields are low on account of damage by hail.

(a) Corn hogged. Yield estimated.

(b) Corn snapped and pen fed to hogs. Yield estimated.

The corn was estimated on plats A-III-32 and A-II-10 as a check on the plats hogged. The estimated yield on A-III-32 was 40.4 and actual yield 32.1 and A-II-10 estimated yield 39.1 and actual yield 32.3, a variation of 8.3 bushels in A-III-32 and 7 bushels in A-II-10, from the actual yield.



WESTERN IRRIGATION AGRICULTURE,  
Field Notes.

## Truckee-Carson.

During the week ending November 6, the maximum temperature was 73 and minimum temperature 29.

The hauling of manure to fields A1 and A2 was continued throughout this period. A small poultry house was constructed for the use of the expere club.

Guards to protect small fruit trees from rabbits were made from 18" poultry netting having 1" mesh. They were placed around the smaller fruit trees and the S.P.I. introductions in field A1.

The pigs in the dry lot feeding experiments are making unsatisfactory gains. For the three weeks ending November 8 the 6 pigs in lot 1 made a net profit of 68 cents and those in lot 2 netted a loss of 71 cents. The two pigs at Mr. Suttan's did somewhat better, showing a net profit of 30 cents in three weeks. It seems clear from these results that it is unprofitable to feed a 3% grain ration when barley is \$1.50 per hundred. The following table gives detailed results of the feeding experiment.

Lot 1.	Durocs	Barks.	Durocs and Berks.	Durocs	Barks.	Durocs and Berks.
	Oct. 23 - Oct. 30			Oct. 30 - Nov. 8.		
Number of pigs.....	3	3	6	3	3	6
Initial weight, pounds....	378	295	673	394	310	704
Final weight, pounds.....	394	310	704	418	322	740
Total gain, pounds.....	16	15	31	24	12	36
Daily gain, pounds.....	2.3	2.1	4.4	2.7	1.3	4.0
Daily gain, percent.....	.59	.70	.65	.66	.42	.56
Barley fed, pounds.....	79	62	141	106	84	190
Cost of Barley @1-1/2¢ lb..	1.19	.93	2.12	1.59	1.26	2.85
Value of gain @ 7¢.....	1.12	1.05	2.17	1.68	.84	2.52
Profit over cost of barley.	-.07	.12	.05	.09	-.42	-.33
Hay fed, pounds.....	54	42	96	51	41	92
Value of hay @ \$6.....	.16	.13	.29	.15	.13	.28
Net profit.....	-.23	-.01	-.24	.06	-.55	.61



20 November, 1915.

WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

Truckee-Carson (continued)

	Lot 1			Lot 2			
	Oct. 16 - Nov. 8			Oct. 23 - Nov. 8			Oct. 16- Nov. 8
	Durocs	Berks.	Durocs and Berks.	Durocs	Berks.	Durocs and Berks.	Sutton's Pigs
Number of pigs.....	3	3	6	2	2	4	2
Initial weight, pounds....	348	272	620	194	132	326	295
Final weight, pounds.....	418	322	740	213	140	353	350
Total gain, pounds.....	70	50	120	19	8	27	55
Daily gain, pounds.....	3.0	2.2	5.2	1.2	.6	1.7	2.4
Daily gain, per cent.....	.80	.74	.77	.59	.37	.50	.75
Barley fed, pounds.....	258	203	461	95	64	159	219
Cost of Barley @1-1/2¢...	3.87	3.05	6.92	1.43	.96	2.39	3.29
Value of gain @ 7¢.....	4.90	3.50	8.40	1.33	.56	1.89	3.85
Profit over cost of barley	1.02	.45	1.48	-.10	-.40	-.50	.56
Hay fed, pounds.....	151	118	269	42	28	70	86
Value of hay @ \$6.....	.45	.35	.80	.13	.08	.21	.26
Net profit.....	.53	.10	.68	-.23	-.48	-.71	.30



20 November, 1915.

## DEMONSTRATIONS ON RECLAMATION PROJECTS.

## FIELD NOTES.

## Huntley.

During the week ending November 6, a swine feeding demonstration was started on Mr. Myer's farm. Records will be kept on two lots of pigs. One lot contains four Hampshires, average weight 112 pounds, and 14 Poland Chinas, average weight 93 pounds. All the pigs were farrowed between March 15 and April 15. The Poland Chinas and Hampshires will be fed together but will be weighed separately and are to be finished as rapidly as possible on corn. Records will also be kept on another mixed lot of Hampshires and Poland Chinas, which have just been weaned. The object of this demonstration is to determine as nearly as possible the cost of producing swine under Mr. Myer's conditions from weaning time until ready for market. The pigs will receive whatever feed that Mr. Myers has available, consisting of skim milk, alfalfa pasture or hay, corn and probably some wheat or shorts. The pigs will be weighed at frequent intervals and all feed will be either weighed or measured as accurately as possible.

## Truckee-Carson.

Considerable assistance was given during the week ending November 6 to impaction in dairy cattle. To facilitate my work in this connection I issued a circular letter covering the main points in care and treatment of such cases.

Much interest is being shown in milking machines. I feel that the greater part of this increased interest is due to the fact that one man has given the milking machine an intelligent and careful trial and after two years of continuous use he has retained the machine for milking his herd. Last winter a test covering 77 days was conducted at the above mentioned farm, for the purpose of getting some experimental data on the efficiency of his machine as compared with hand milking. Ten cows were included in the experiment, and all cows that were started in the experiment were continued through to the end in the same lactation period. The results of the experiment show that the gradual decline in the milk flow, which is to be expected as the lactation period advances, from the beginning of the experiment to the end was the same whether the animals were milked by hand or by machine.

Until recently several milking machines of the Hinman make have been discarded as unsatisfactory after a short trial, but during the past few weeks these machines have changed hands and put into use and the new owners seem pleased with the results. The data on the experiment mentioned will be reported for the bulletin soon.



27 November, 1915.

## WESTERN IRRIGATION AGRICULTURE.

FIELD NOTES.

## San Antonio.

The maximum temperature for the week ending November 13th was 88, minimum 53, and greatest daily range 21. The greater part of the week was cloudy and warm. Light showers fell on Thursday, Friday and Saturday, the total precipitation being .25 inch.

Plowing was continued when weather permitted, the following plats being plowed: A4-1, A6-3, B4-16, B5-17, B6-2 and B6-6. Miscellaneous weeding was done on the rotation plats and on other fields. Johnson grass on the south side of the farm was cut. Some time was spent in greenhouse work, in repairing tools and in grubbing out brush along the road fence.

Mr. Hastings returned to the farm on the 10th.

Messrs. Scofield and Farrell arrived on Saturday to spend several days at the station.

## Umatilla.

During the week ending November 13, the maximum temperature was 53, minimum temperature 18, and precipitation .14 inch.

Work of preparing final notes upon experiments was continued. The diversion box and pipeline being placed in field C1 were completed and several minor details about the premises.

Mr. H. K. Dean left the farm Thursday, November 11 enroute to Washington for the winter. On the way East he is to visit the Tennessee Experiment Station for the purpose of studying the work of that institution in leaching determinations by the use of lysimeters.

## Scottsbluff.

During the week ending November 20, practically no farm work was done. Most of the time was spent in hauling lumber and working on the extension to the cow barn.

The weather has been so bad, especially in regard to wind, that it was almost impossible to shuck any of the corn or haul any fodder off the field of that which was shucked.

It has not been possible to do any late fall plowing, as the ground has been frozen for practically 3 weeks, and at the present time there are no indications of its thawing out.



27 November, 1915.

WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

Scottsbluff (continued)

Dairy Report for October.

This report, which should have been closed October 1st, was held over on account of one of the cows being about to drop her calf, and we were anxious to make calculations for this one animal for the entire lactation period.

The following table gives the results and returns for the month of October.

We wish to call your attention to the fact that nearly all of the cows, especially the 3 Holstein cows, Mabel, Maud and Narie, have gone up in their productions. This, we believe, is entirely due to the turnips that we have fed during the month. One of the Holstein cows, Beauty, who is the cow that was bloated sometime ago, is now dry. She has never recovered perfectly from the bloat, in fact the wound in her side is not entirely healed by this time.

The cow that has just freshened, is a black, white-faced cow, supposed to be a Shorthorn-Holstein scrub. She is the beefiest cow that we have on the place. Her last calf was dropped January 12th, and she dropped a heifer calf November 9, 1915. During this time the cow produced 5199.65 pounds of milk, averaging 4.01 pounds butterfat, or a total of 203.39 pounds. The average market price for the butterfat was 23-1/4 cents per pound. The total value of the butterfat was 47.28. The value of the skim milk was \$11.68. The value of the calf at two months, weighing 190 pounds at 8 cents per pound was \$15.20; deduct from this \$5.66, the value of the milk that the calf consumed in the two months, makes a total income for the cow during the year of \$68.50; deduct from this \$51.87, the total amount of feed that the cow consumed, leaves a total net income of \$16.63.



27 November, 1915.

WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

## Scottsbluff (continued)

The following tables give the results for the month of  
 October, 1915:

Pounds Milk	Butterfat					Hay		Turnips	Profit or Loss
	Av. Test	Total	Market Price	Value of	Cost of	Pounds	Value		
Wonder								992 *	
76.75	5.0	3.83	25¢	0.95	11.93	1437	\$ 3.58	496 '	- 3.62
Rose								992 *	
82.9	6.5	5.38	25¢	1.34	84.9	1437	3.58	496 '	- 3.23
Marie								992 *	
641.1	3.2	20.5	25¢	5.12	23.2	1437	3.58	496 '	+ 0.55
Mabel								992 *	
792.65	3.3	26.15	25¢	6.53	17.4	1437	3.58	496 '	+ 1.96
Beauty									
143.5	4.6	6.6	25¢	1.65		1437	3.58		
Maud								992 *	
525.7	3.8	19.97	25¢	4.99	22.8	1437	3.58	496 '	+ 0.42
Stella								992 *	
426.85	4.6	19.63	25¢	4.90	23.2	1437	3.58	496 '	+ 0.33

\*Roots 'Tops

Table Showing Amount and Value of Skim Milk of each Cow during October.

Cow	Skim Milk		
	Total Pounds	Value	Total Value
Wonder.....	65.2	25¢	\$ .16
Rose.....	70.5	25¢	.18
Marie.....	544.9	25¢	1.36
Mabel.....	673.8	25¢	1.68
Beauty.....	122.0	25¢	.31
Maud.....	446.8	25¢	1.12
Stella.....	362.8	25¢	.91



27 November, 1915.

WESTERN IRRIGATION AGRICULTURE  
Field Notes.

Belle Fourche.

During the week ending November 20, the maximum temperature was 57, and minimum temperature 14.

The crowned alfalfa plats in the irrigated rotations were plowed during the week.

The ground that was in corn in field O was also plowed and one series laid out into forty-two plats. Fourteen of these were plowed, fourteen were subsoiled 10-12 inches deep, and fourteen received no treatment. In the spring, all these will be seed in triplicate to wheat, oats, barley and flax.

Grain on corn ground this year was very poor and several farmers have reported that the yields of grain after corn, were very unsatisfactory. They think it might be due to the packed condition of the ground after irrigated corn. This is specially true when the corn is hogged.



27 November, 1915.

## DEMONSTRATIONS ON RECLAMATION PROJECTS.

## FIELD NOTES.

## North Platte.

Monday of the week ending October 30 was spent in the office working on material for a circular letter on "Hog Houses" to be sent to the farmers on the project. In this letter the information secured concerning the pig crop losses during the spring of 1915, was used to show the necessity of better hog houses.

During the week a call was received from the farm of E.P. Bennett near Minatare, to investigate the cause of the loss of some of his 15 months-old-hogs, then in the feed lot. The hogs were receiving a ration of corn and sugar beets. Two hogs, weighing about 175 pounds each were found dead, having been ailing for four days previous. Two others had died, a few days before. Before dying they showed symptoms similar to the last two that died. There were about 150 other hogs the same size in the lot. All seemed perfectly well. Both dead hogs were posted. In both hogs the abdominal cavity was found to be filled with a bloody liquid. In one case the bladder was distended to several times its normal size, but on close examination small holes were found in the bladder where the urine had oozed out into the abdominal cavity. The bladder of the second hog was empty and a small hole was found in it. On a more careful examination a number of small stones, cystic calculi, about one-half as large as a pea, were found in both bladders. There were 8 of these stones in one bladder and 6 in the other. The presence of these stones in the bladder had evidently produced holes in the bladder. This allowed the urine to escape in the abdominal cavity, which resulted in death from uremic poisoning.

It seems that this trouble is not very common in swine, and only the older hogs are afflicted. This is the second case to be found on the North Platte project. The other case was found during the summer of 1914.

Two outbreaks of cholera were found during the week ending November 6. One was east of Bayard in the vicinity where the disease has been causing trouble all summer. This outbreak was on the farm of O. S. Smith. The disease was well advanced when the herd was visited, a good many high temperatures were found, and a few hogs showed signs of sickness. At Mr. Smith's request all 34 hogs were vaccinated.

The second outbreak of cholera was found on the farm of a Mexican, south of Minatare. He had only a small herd of 7 hogs. Two were too far gone to vaccinate, a third one had a high fever but the rest did not seem to be affected. It is probable that this disease came from a nearby farm where it is thought there was an unreported case of cholera.



27 November, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

## North Platte (continued)

Another carload of 145 shoats were shipped from Mitchell to the State Serum Plant at Lincoln during the week. The price paid for the shoats was \$7.75 cwt. f.o.b. Mitchell.

The first pure-bred hog sale of the season was held at Morrill on November 6, by Mr. Baldwin. The offerings were Poland China hogs of only fair quality. On account of it being a very busy time of the year there was only a small crowd at the sale and Mr. Baldwin had trouble in selling all of his offerings. The highest priced spring boar sold for \$35.00.

A call was received from C. W. Jones of Sheep Creek district for an investigation as to the cause of the loss of some hogs. He had lost three 200-pound sows. A post mortem examination held on one of the dead hogs showed that the trouble was due to impaction in the large intestines, where large quantities of sand were found. It is thought that the presence of this large amount of sand in the intestines caused them to become irritated, which in turn brought about the impaction.

Quite a number of exactly similar cases have been found on the project. It is thought that when hogs do not have access to some suitable mineral mixture, they eat large quantities of sand which cause impaction and often death. If taken in time a strong physic should relieve the animal. The facts indicate that the animals crave a certain amount of mineral matter and emphasize the importance of keeping some mineral matter before them, even if it is nothing more than salt and slacked coal. However, the mixture of slacked coal, salt, air slacked lime, sulphur and copperas is very satisfactory.

## Huntley.

The first snow of the season accompanied by a few days of very cold weather occurred during the week ending November 13.

On Tuesday of this week ten head of Holstein heifers were selected for E. C. McDermand, from a bunch that was recently imported to Billings and held there for sale. These cattle were picked up some place in Wisconsin by a professional cow dealer, and as a bunch did not look very promising, however, it was possible to select ten head, two yearlings and eight two year olds, which were thought to be worth the price asked. Mr. McDermand paid an average price of \$45. per head for them, and is very well satisfied with his purchase.



27 November, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

## Huntley (continued)

Black leg was reported by Mr. Ohlin who after losing two of his calves secured Park-Davis "black leg-oids" and vaccinated the remainder of his herd. It was necessary to use the pills because no government vaccine was immediately available.

Fifteen farm calls were made during the week.

A part of the swine feeding demonstration which is being conducted on the farm of Mr. George Graham was concluded October 31. The test was started July 14. Seven pure bred Poland China pigs, farrowed May 23, and averaging 78 pounds at the beginning of the test, were used. These pigs had access to alfalfa pasture, and a part of the time were given rape in addition to their pasture. They were also fed some grain. Only an estimate can be given of the quantity of pasture used, since the pigs were pastured a part of the time with other hogs. It is estimated that they grazed  $3/8$  acre of alfalfa and  $1/10$  acre of rape. The results are given in the following table, in which pasture is valued at 15 cents per acre per day and rape at the same rate. During the last four weeks the pigs were fed some sugar beets, which are valued at 25 cents per hundred weight. All the grain used was carefully weighed.

Date begun.....	July 14
Date closed.....	Oct. 31
No. of days.....	106
Total initial weight, pounds.....	546
Average initial weight, pounds.....	78
Total final weight, pounds.....	1280
Average final weight, pounds.....	183
Total gain, pounds.....	734
Average daily gain, pounds.....	0.99
Value of gains at 6¢ a pound.....	\$ 44.04
Grain fed, pounds.....	1840
Wheat, pounds 1336 @ \$1.25 cwt.	
Corn, pounds 371 @ \$1.85 cwt.	
Shorts, pounds, 133 @ \$1.50 cwt.	
Pounds of grain per pound of gain.....	2.51
Total cost of grain fed.....	\$ 25.31
Beets fed, pounds.....	510
Cost of beets fed, at 25¢ cwt.....	\$ 1.27
Value of alfalfa pasture at 15¢ per acre per d. \$	4.21
Value of rape pasture at 15¢ per acre per day. \$	1.16
Total cost of all feeds.....	\$ 31.95
Value of grains less cost of feeds.....	\$ 12.09
Cost per 100 pounds of gain.....	\$ 4.34



27 November, 1915.

## DEMONSTRATIONS ON RECLAMATION PROJECTS.

Field Notes.

## Tieton.

The greater part of the week ending November 13 was stormy and the roads are in poor condition. Advantage was taken of the weather conditions to do several days office work on the milk and feed records.

The price of potatoes has risen to \$16. per ton and the crop is being hurried to market. Only a few will hold their crop until spring for the majority feel that \$16. per ton now is as good as \$20. or \$25. in the spring. Prime pork went to \$6.25 for a few days but has gradually fallen to about \$6. These prices and an advance in hay to \$10. per ton, baled, have created another small demand for dairy stock. Several auction sales of dairy stock in the Yakima valley during the last two months have given several Tieton farmers a chance to buy cows locally. It is possible that the present demand will have to look to the Ellensburg valley or to the section around Seattle for desirable stuff at reasonable prices.

About six inches of snow has fallen over the upper parts of the project. Most of it has melted and the cold slush and the chilly weather emphasize the need of adequate housing for cows and hogs. Dairy cows, in general, are but fairly well sheltered on the project. There are a few very serviceable barns. A great majority of the hogs are protected only by sheds or make-shift roofs over a corner of the pen. There are also some desirable hog houses, but they are the exceptions.

## Minidoka.

On Sunday of the week ending November 13, a call was received from Mr. Allison for whom a hog had been posted on Saturday. Two more had died, one Saturday night and one Sunday morning. Neither showed any cholera lesions. The trouble was found to be the same as that on Saturday, namely sand that had been eaten with the feed. From the fact that the feeding system had been practiced for some while the trouble had come all at once Mr. Allison was positive that cholera was present. Dr. Henderson was taken to the farm on Monday morning and confirmed the diagnosis. It was not until the end of the week, however, until Mr. Allison was convinced that cholera was not present.



27 November, 1915.

## DEMONSTRATIONS ON RECLAMATION PROJECTS.

Field Notes.

## Minidoka (continued)

A call received from Mr. O'Connor of Heyburn received Monday morning was answered Monday afternoon. Cholera was found to be present.

On Wednesday an educational campaign was made. The day was so cold and disagreeable with a very strong wind and a sand and dust storm that it was impossible for the farmers to work outside. An automobile trip was taken to the country stores in those sections of the project where there are but few fences and the hogs are let run at large. From six to fifteen farmers were at each store so that a large number were met and the problems discussed with them. Each crowd was left arguing and discussing the problems of caring for their hogs and keeping them on their own farms. The big majority took the suggestions in the same spirit that those had in the campaign in the infected section last fall and agreed that this was not the way to raise hogs. The trip was made with Dr. Henderson.

8 Thursday evening and Friday were spent with Mr. E. P. Taylor Field Horticulturist of the University of Idaho, in work upon potato problems of the project. Calls along this line have been so numerous that the University has agreed to permit Mr. Taylor to do considerable work here along this line. The soil of the project is well adapted to potato growing. The yields have been large and the Rupert potatoes have been so free from disease and the quality so good that they command a premium on the market. All fall the prices of Rupert potatoes have been from 5 to 10¢ higher (per cwt.) than elsewhere in Southern Idaho. Mr. Pratt of the Department of Agriculture Potato Farm at Jerome, who has conducted a few demonstrations on the project will also continue the work here.

The best results from potatoes found so far this year are indicated in the following, from Mr. E. E. Stoessel's farm, across the river by Montgomery's Ferry, four miles south of Rupert. From six acres Mr. Stoessel marketed 146,155 pounds of White Pearl potatoes. For these he received \$1,021 or \$170.33 per acre. There were 1,294 sacks sold through the Producers Association that brought this sum. Besides he sold enough locally and has enough culls to clear all of the expense of raising the crop including the seed; hence Mr. Stoessel regards the above amount as the net return for the crop.



4 December, 1915.

## WESTERN IRRIGATION AGRICULTURE.

## FIELD NOTES.

## Truckee-Carson.

Report for the week ending October 16.

A cooperative experiment with two acres of mangels has been conducted during the past summer on the farm of C. H. Hancock. About 1/4 of the field had been heavily manured but the remainder was unfertilized. The field had previously been in alfalfa. About equal areas of Golden Tankards and Mammoth Long Red were planted. Yields per acre were as follows:

Golden Tankard - manured .....	27.5 Tons.
Golden Tankard - unmanured.....	17.2 "
Long Red - unmanured.....	13.7 "

As no wagon scales were available only ten out of the total 204 rows were weighed to obtain the estimate of the yields.

The 20 corn varieties planted on the farm of Tom Conner have been harvested and the calculations completed.

The varieties were planted May 29 and were caught by frost September 14 thus having 108 days for the growing period. This appeared to be too short for many of the varieties. Undoubtedly if the planting had been made two weeks earlier the relative yields of the varieties would have been materially altered.

This year two flint varieties produced the highest yields, whereas last year the best flint variety was outyielded by 11 dent varieties. Another peculiar result obtained is that three of the best yielding varieties of 1914 (Disco 90 Day, Northwestern Dent and Gold Medal) are this year near the bottom of the list in yield and general desirability. The yield and some other data are stated in the following table, where the sources of seed are indicated as follows: "NK", Northrup King; "OCI", Office of Corn Investigations; and "Disco", Dakota Improved Seed Co.



4 December, 1915.

WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

## Truckee-Carson (continued)

Variety	Source of Seed	No. of Hills		Yield per Acre Dry ear corn (Bushels)	Av. Height (Feet)	Shelling Percentage
		Planted	Grown			
Triumph Flint.....	NK	280	266	50.3	6.0	73
Australian White Flint	OCI	350	333	48.1	8.0	67
Riverview Special...	Disc	350	308	31.6	7.75	72
U.S. Selection #133..	OCI	350	339	31.6	8.0	73
Martins White Dent..	OCI	350	343	30.4	7.5	71
Smoky Dent.....	NK	350	340	29.3	7.0	72
Wimples Yellow Dent.	OCI	350	328	28.4	8.25	74
Disco Pride.....	Disc	350	308	27.9	5.75	79
Minnesota #13.....	Bisc	350	320	25.4	7.75	72
Bloody Butcher x 160	OCI	350	287	26.0	8.25	65
Minnesota #23 .....	Disc	350	339	25.6	6.0	74
Rustler White Dent..	NK	350	302	25.4	7.25	71
Northwestern Dent....	Disc	350	242	22.8	7.0	71
Disco 85 day.....	Disc	350	261	22.8	6.0	72
Disco 90 day.....	Disc	350	267	22.1	7.0	71
U.S. Selection #160..	OCI	350	323	22.1	8.25	65
Gold Medal.....	NK	350	317	21.8	7.5	76
Gold Mine.....	NK	350	221	12.1	8.5	78
Silver Mine.....	NK	350	243	3.4	8.5	--

During the Week ending November 20, the maximum temperature was 62, minimum temperature 13, and precipitation .403 inch.

The number of field men has been reduced from 5 to 3 as less help will be needed until the spring work begins.

The field work has consisted in harrowing all the fields where the crops would not be injured with a spring tooth harrow to kill the grasshopper eggs, and of raising plats A5 and 6 to a higher level by filling with soil from a nearby hill.

The Russian cleaster hedge has been trimmed and the work of painting the buildings has continued.



4 December, 1915.

WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

## Truckee-Carson (continued)

The pigs in the feeding test on the experiment farm have made low gains during the six weeks they have been on a 3% barley ration, the gains being insufficient to pay for the feed. The average percent daily gain for six weeks for Lot 1 was 0.67 and for Lot 2, 0.54. The pigs in the two lots were divided according to size, the two smallest of each breed being in Lot 2.

The two Berkshire pigs in the feeding test on the farm of W.L. Suttan have made large gains and netted a fair profit over the cost of feed. They are receiving the same rations as the pigs on the experiment farm, but have been from the first in better physical condition, their growth not having been checked at any time.

## Yuma.

During the week ending October 16, temperatures recorded were: Maximum 98, minimum 40, greatest daily range 47.

Messrs. G. N. Collins and J. H. Kempton visited the station during the later part of the week - completing observations on corn varieties being grown here. Professor Freeman, Acting Director of the University of Arizona, spent one day of this week at the station.

During the week ending October 23, the maximum temperature was 100, minimum temperature 41, and greatest daily range 55.

The varieties already matured on the sorghum variety block on A-24 were cut and hauled from the field, the late maturing types being left. Some of these later varieties are very long seasoned and are not yet showing indications of heading, although a very tall and rugged growth has been made. The tallest variety stands erect at sixteen feet.

Mr. T. H. Kearney visited the farm during the week at which time the final season notes on the seedling pomegranates were taken. The unidentified disease, often so destructive to the pomegranate fruit in this region, was less noticeable this season than for several years. The counts of fruit from sprayed and unsprayed plants showed little control with Bordeaux spray. Last year this spray seemed partially effective.

A representative from the Bureau of Standards made determinations of cement mixtures used in a tile drain laid on the experiment farm. He reported no loss of strength from alkali after a period of two years.



4 December, 1915.

WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

Yuma (continued)

Several growers have made extremely good alfalfa seed yields as a second crop from the same fields this fall. Nearly all the alfalfa seed now threshed has been sold at very good prices.

At intervals of about seven days, during the season of alfalfa seed maturity, samples were collected and submitted to Mr. T. D. Urbahns, Field Assistant in the Bureau of Entomology, for the determination of infestation of the Chalcis Fly. The following percentages of infestation were found:

Date	Seeds Infested Percent	Date	Seeds Infested Percent
April 24.....	39.2	June 17.....	26.5
May 7.....	52.6	June 23.....	26.6
May 10.....	53.8	July 2.....	25.3
May 12.....	36.1	July 28.....	54.4
May 20.....	23.6	August 4.....	21.7
May 28.....	21.0	September 7....	50.2
June 8.....	32.3	September 14...	49.3
June 11.....	29.5	September 28...	71.0
		*October 12.....	85.67

\*Collected on ditch bank.

During the week ending October 30, the maximum temperature was 97, minimum temperature 41, and greatest daily range 52.

Repair work at the Laguna Dam prevented turning water into the ditches this week.

Cotton picking was begun at the Experiment Farm this week—beginning with the "Time of Planting Test" with Durango cotton on fields C-20 and 21. Yields were produced as follows:



4 December, 1915.

WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

Yuma (continued)

Date Planted	Yield per Acre, pounds -- Seed Cotton		
	Thinned 6 to 7"	Thinned 12 to 14"	Average
April 9.....	518	587	558
" 16.....	431	486	458
" 23.....	435	481	458
" 30.....	333	393	363
May 7.....	393	442	418
" 15.....	511	415	463
" 24.....	562	422	492
June 3.....	548	534	541
" 11.....	522	527	525
" 17.....	389	464	427
" 24.....	180	254	217

Plats B-1 to 5 were prepared and planted to wheat, oats, barley, rye and field peas to be handled as winter green manure crops on these very sandy plats preceding spring crops.

Sudan grass plats from D-13 were harvested. Seedling date palms in nurseries were pruned.

Plat A-14g was planted to roots of a strain of Giant Bermuda Grass received from Mississippi. It is thought that this may be a superior pasture grass to the native species growing on low lands in this region.

Gravel was hauled for constructing cement abutments of an inverted syphon culvert on ditch at front entrance of the farm. An elevation bench mark was established in this structure at 138.186'.

Messrs. Scofield, Farrell and Carter arrived Thursday. On Saturday, Messrs. Cook and Wells arrived.

During the week ending November 6, twenty-five acres were irrigated. A precipitation of .15 inch was recorded. The maximum temperature for the week was 93, minimum 44, and greatest daily range 48.

Fallow land on Plat A-3-4-6 and C-26 was plowed in preparation for fall planting. Date nurseries were hoed. A cutting of hay which is probably the last, was made from Sudan grass experiments on E-3 to 6.



4 December, 1915.

## WESTERN IRRIGATION AGRICULTURE.

Field Notes.

## Yuma (continued)

The millet varieties harvested from A-5 on September 1, gave yields per acre as follows:

Goldmine .....	3.26	Tons per Acre.
Japanese.....	2.71	do
Turkestan.....	2.46	do
German.....	1.57	do

Mr. Frank N. Myer visited Thursday at the farm looking over S.P.I. Introductions being grown here.

Messrs. G. Cudahy and T. P. Daly of the Imperial Development Company at Hecheurra, Mexico, spent two days during the week at this station going over cotton, fruit and ornamental tests being conducted.

During the week ending November 13, several frosts were experienced, with the temperature of one night dropping to 31. This freeze deadened nearly all cotton and late bean and cowpea growth. The maximum temperature was 78 and the greatest daily range 42.

Sweet potato vines were cut after the frost. Cotton picking continued.

Golden Vine field peas were planted on E-9 and barley was seeded in alfalfa on E-2, both for hog pasturing. On border C-25 five varieties of field peas were planted in duplicate 1/20 acre plats.

Six varieties of flax were seeded in duplicate plats on C-26.

E-2 was plowed and Bermuda grass spts in E-orchard were plowed. Sorghum stalks were cut and hauled from D-10.

The road culvert on the central ditch was replaced by an inverted syphon culvert of greater capacity.

During the week ending November 20, the following temperatures were recorded: Maximum 81, minimum 29.5, greatest daily range 45. Only 9-1/4 acres were irrigated.

Sonora wheat was planted to D-6 and 7. Forty-eight varieties of field peas were planted in rows on A-25.

Four varieties of vetch were drilled in plats on E-2.

A time-of-planting test of flax was begun on A-105. A variety test and method-of-planting test of flax was made on A-152, twenty varieties and selections being used.



4 December, 1915.

WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

## Yuma (continued)

The following pasture grasses and clover were seeded separately to border D-15 in plats: Meadow Fescue, Perennial Rye grass, Timothy, Orchard grass, *Bromus inermis*, Tall oat grass, and Alsike clover.

Alfalfa was turned under on plats A-13<sub>6</sub>-7 and A-22.

The gasoline engine was overhauled and put in order for cotton ginning.

## Belle Fourche.

During the week ending November 27, the maximum temperature was 47, minimum temperature 13, and precipitation .04 inch.

The work for the week consisted of grading around the foundation for the new barn, fencing lane to pasture for the horses, and cleaning grain varieties.

During the week, Mr. Hoover of Denver, representing the Great Western Sugar Company, has been on the project. Several meetings have been held to ascertain if a sufficient acreage can be signed up for the 1917 crop. If an acreage of 8,000 is signed up for the 1917 crop, a sugar factory is practically assured.

## Scottsbluff.

During the week ending November 27, one team was busy a portion of the time plowing the alfalfa plats on field K.

Several men were at work carpentering on the cow barn extension, which we hope to finish before the bad weather sets in. We expect to build a shed, extending east of the cow barn, and hope to get this ready for use during the winter months. As we have to put in a concrete foundation we will have to wait until the weather gets a little more settled and when danger of freezing is over.



4 December, 1915.

WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

## Scottsbluff (continued)

The following table gives the yields of alfalfa for 1913, 1914 and 1915 and an average of the three years, in the Irrigated Rotation Experiments:

Rot. No.	When seeded and Age	Yield per Acre, Tons.			
		1913	1914	1915	3-year Average
65	Fall, 1st year	4.98	5.80	4.38	5.05
65	Fall, 2nd year	5.82	6.54	4.69	5.68
61	Spring, 1st year	1.38	3.20	1.61	2.06
61	Spring, 2nd year	5.41	6.99	5.11	5.84
61	Spring, *3rd year	5.53	6.76	4.70	5.66
40	Spring 1st year	1.28	3.10	1.69	2.02
40	Spring, 2nd year	5.63	7.20	5.00	5.94
60	Spring, 1st year	1.30	2.87	1.50	1.89
60	Spring 2nd year	5.01	6.58	4.93	5.51
60	Spring, 3rd year	5.54	6.66	4.57	5.59
42	Spring, 1st year	1.20	2.86	1.76	1.94
42	Spring, 2nd year	5.37	6.92	4.84	5.71
62	Spring, 1st year	1.19	2.95	1.43	1.86
62	Spring, 2nd year	5.30	7.16	4.90	5.79
62	Spring, 3rd year	5.10	6.22	4.66	5.20
44	Fall, 1st year	3.58	5.99	3.98	4.52
44	Fall, 2nd year	5.87	6.71	3.88	5.49
8	Spring, 4th year	5.38	6.40	4.57	5.45
48	Fall, 1st year	3.65	5.77	3.39	4.24
48	Fall, 2nd year	5.57	7.21	4.17	5.65
Maximum		5.87	7.21	5.11	5.94
Minimum		1.19	2.87	1.43	1.86
Mean		4.20	5.69	3.79	4.59

\*There were no 2-year old alfalfa in 1913; all first or second. The plats marked 3rd were 2nd year.



4 December, 1915.

## DEMONSTRATION ON RECLAMATION PROJECTS.

## FIELD NOTES.

## Truckee-Carson.

During the week ending November 13, sixteen calls for assistance were received and eight farms were visited. Friday and Saturday of the week were spent in San Francisco for the purpose of visiting commission and provision merchants who make a speciality of handling poultry. The principal object of this trip was to meet those who have been soliciting business on this project, to look up their standing and to arouse a more personal interest in consignments sent to them from here. Much information was obtained from these places of business regarding the various items which affect the selling of dressed poultry.

In addition to the visit to the various poultry markets, another purpose was to find a market for dressed pigs for roasting and dressed pork. Just at this time there is an extra supply of small pigs on the project, most of which have been raised in connection with the dairy business. The owners are anxious to get rid of these pigs before cold weather and before they begin to require a grain ration. Winter feeding of grain here to hogs has been unsatisfactory to ranchers, because the price of grain as a rule has been prohibitive with the low price of pork. The early spring crop of pigs can as a rule be matured very economically on milk and alfalfa pasture, and finished with some grain, root-crops, etc., but this provides for but one crop of pigs. Most of the ranchers prefer to raise two crops of pigs providing they are not obliged to keep the fall crop of pigs through the winter. There is a good market in San Francisco, Oakland and several other bay towns which can be reached from here by express in sixteen hours. It is my purpose to see what can be done in the way of getting the fall pig crop on to these markets. In this connection it was necessary to find out the inspection requirements of these cities, also the requirements of federal inspection since these markets are outside of this state.

Several commission houses reported a good demand for dressed hogs and small pigs. One trial shipment has been made of small dressed pigs. If this proves satisfactory, no doubt it will be followed by many more shipments. It is proposed to issue a circular letter or to give through the local papers, information regarding the city and federal inspection requirements of these cities for dressed meats slaughtered on the ranches.



4 December, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

Truckee-Carson (continued)

During the week ending November 20, twenty calls for assistance were received and six farms were visited.

Much of the time during the past week has been devoted to the marketing of Thanksgiving turkeys. Much attention has been drawn to the project in this connection. A great many reliable firms have been represented here by their agents and the ranchers have been besieged by buyers instead of having to hunt for a market as has been the case heretofore. The prices paid for turkeys in Fallon has been 21 to 23 cents per pound for good stock. The San Francisco prices are 26 to 28 cents so that those who consigned their turkeys to commission men for sale hope to realize somewhat larger returns. The express rate is \$1.58 per hundred and the commission houses charge 8% for making sales.

With the attention that has been drawn to this project as a poultry center, it seems probable that a poultry buying and packing plant will be established here before another year. This has been in view in the work done in poultry lines during the past year.

Boise.

Report for week ending November 13.

Since the weather became cooler several cases of hog cholera have appeared on or near the project. For some reason none of these have been reported promptly and the percentage of loss will be high. In two cases, nearly everything appeared to be infected, and no treatment was given. In a third case it was stated that 13 hogs had been sold when the disease appeared and that all but two of the remainder of the herd, 27 head, would die or be killed. These hogs were garbage-fed.

The corn show at Ontario, Oregon, attended on Thursday, is the second to be held there under the auspices of the Pomona Grange. It is a two-day event and is made as educational as possible with exhibits and lectures along various lines. Attendance and interest have been exceptional both years. The corn show proper consists of two-bushel samples shown by each competitor, the contest being for best acre-yield, quantity, quality and record of work considered. This year there were 38 two-bushel samples, besides some smaller exhibits, and the quality, in most cases was high. Yields (certified; shelling tests made) ranged as high as 105 bushels per



4 December, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

## Boise (continued)

measured acre. Sweepstakes was awarded to a Big Bend farmer this year as well as last. Part of the Big Bend district is included in the Boise project.

On Saturday another corn show was attended at Parma, this being the second event of the kind held there, also. Competition was strong, thirty-four 19-ear samples being exhibited. Awards were made on yellow and white corn separately and first place in both was won by Big Bend farmers.

On Friday a meeting of the State Live Stock Sanitary Board was attended. A proclamation prohibiting the importation of any anti-hog cholera serum without special permit from the State Veterinarian, had been issued by the Governor upon the recommendation of the Board. The Canyon County Farm Bureau had been importing serum from a Sioux City, Iowa, plant and applied for permit to continue which was refused. As a result of the meeting on Friday, however, members of the Farm Bureau being present, at the suggestion of the Governor, it was decided to have the State Veterinarian import this same serum and keep it in stock, issuing it to swine growers at cost.

As an indication of the interest in the dairy business in the Boise Valley, a sale held near Meridian last week may be cited. This was a dispersion sale of a large herd of grade cows. The first cow offered, a high producing Holstein, sold for \$190. Forty-two head averaged over \$127., and 91 head averaged over \$103. Unweaned calves brought as high as \$36.

At another sale two days later in the same vicinity stuff sold considerably lower but still brought good prices.

Six visits have been made the week ending November 20, relative to hog cholera control but no new cases have been found. On one farm where cholera was found last week no quarantine had yet been placed and conditions were bad, carcasses not having been properly burned. This case had been twice reported to the State Veterinarian Department. It has since been attended to.



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DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

## Boise (continued)

On Friday night a meeting of a farm club near Meridian was attended with County Agent Williams who has just arrived this week to begin work in Ada County. This club has been organized about a year, having been started principally for social purposes although it now does some business and takes up other lines of work. The monthly meetings of the club are well attended and, judging from the meeting this week, highly interesting. Cow testing was taken up as a subject for discussion at the meeting and as a result three men signified their intentions of keeping records.

E. F. Rinehart of the Minidoka Project has visited the Boise Project this week.

## Huntley.

During the week ending November 20, in company with Mr. Chaplin, cheese expert from the Dairy Division, further investigation of the cheese factory possibilities on the project was made. For the present our efforts are confined principally to the east end of the project. There are several reasons for this, but the principal one is that the people in that vicinity want a cheese factory and are willing to furnish enough financial support to get it started. Mr. Chaplin spent the last four days of the week on the project and left convinced that the farmers should go ahead with the enterprise. He will return about December 1st, when further efforts will be made towards getting the factory into operation by early spring.

If this enterprise is a success, as it promises to be, it will no doubt result in extension of the dairy industry on the project.

It does not seem probable now that it will be practical to ship milk to the factory from other parts of the project, unless a lower rate can be secured from the express company. The present rate of 18 cents for a ten gallon can of milk would mean between five and six cents per pound butter fat. Under such conditions the dairyman could probably make more by skimming the milk and shipping the cream to the creamery. The express on a five gallon can of 30% cream to Billings amounts to 1-1/4 cents per pound butter fat. On a ten gallon can it is a little less.



4 December, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

## Huntley (continued)

A pig feeding demonstration was started on Mr. McDermand's place during the week. Fifteen spring shoats, averaging 133 pounds, were penned up and will be fattened on corn. Records of the gains made and the feed eaten are being kept.

Forty-seven calves were vaccinated against black leg during the week.

## Tieton.

Twenty farms were visited during the week ending November 20; eight concerning results of the October milk tests, seven in regard to placing their herds on test, one to vaccinate for blackleg, one a follow-up visit to determine results of suggested treatment of abortion and sterility, two in regard to mixed pastures and one concerning pig feeding and boys' club work.

Professor Newbill, the state leader of boys' and girls' clubs, addressed the School Masters' Association of Yakima, Benton and Kittittas counties at Yakima on Saturday. The Benton county teachers who have had experience in the work for the past two or three years reviewed the work done in their communities. Mr. Lampson, the Benton county agriculturist, spoke principally of his work with the clubs during the summer and of the club exhibitions at the Prosser Corn and Hog Show. The livestock breeders of Yakima valley have offered any number of pigs and sheep and a few heifers to supply the needs of the proposed club work in the valley.

The price of hogs has taken a sudden drop from around \$6. two weeks ago to \$5.25 and \$5.50 this week for prime grain fed stuff. Ordinary stockers are worth about \$6. and are being offered in excess of finished hogs. It seems that this circumstance may be partially explained by the lack of proper feeding during the summer either on alfalfa pasture or in dry lots. The hogs that have had only alfalfa pasture are in poor condition and it evidently takes considerable grain to finish them. Dry lot grain fed hogs have already cost their owners quite a bit of grain and some prefer to sell this class as stockers rather than feed them more grain at the present prices. Some 1914 fall and winter pigs were not fed off last spring due to the high prices of grain (from 1-1/4 to 1-3/4 cents per lb.) and were kept through the summer on alfalfa pasture.



4 December, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

## Minidoka (continued)

Boys' and Girls' Clubs will again be conducted in four districts. With the exception of the Pioneer District it is not planned to organize these in the same districts where the work was conducted last year. A request has come in from the County Superintendent and the Teachers' Association of Minidoka County that Clubs be organized in each district but to supervise these properly would require almost full time. It is believed that it is much better to have strong clubs in four districts than poorly supervised clubs in nineteen districts

## North Platte.

During the week ending November 20, a visit was made to Mr. Garrard's farm near Morrill to see the results in his herd since vaccination. There were 83 hogs in herd but only 31 were vaccinated, the others being too far gone to treat. Six of the vaccinated hogs had high fevers. Out of the 31 vaccinated, 24 are still living and apparently well. Out of the 7 vaccinated hog that died, 5 had high fevers, and 2 showed no rise in temperature. Out of the 52 not vaccinated on account of the advance of the disease, 3 are still living but only two will recover.

Fortunately no additional cases of cholera have appeared in neighboring herds. This is the only case of cholera that has ever been known to occur in this neighborhood.

The herd belonging to a Mexican near Minatare, was also visited. In his herd of 6 hogs, 5 were treated for cholera about three weeks ago. These 5 hogs lived and are apparently well, but the unvaccinated one died.

Since July 1, 1915, 12 outbreaks of cholera have been found as compared with 66 outbreaks during the same time last year.

Mr. Pickering's fall pigs were treated for sore mouth during the week. It was a very hard case to treat satisfactorily. The sows were all kept together in a row of straw-covered pens and the pigs could run back and forth in all of the pens if they wished. The first thing done was to clip off the "black teeth" and dip the pigs in a fairly strong stock solution and to shut up the pens in which there were infected pigs. The infected pigs were given treatment, the affected parts being cut open and disinfected.



4 December, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

## North Platte (continued)

The affected parts will be treated each day with a strong solution of potassium permanganate. The pens will be sprayed and all the pigs dipped once a week.

Whitehead and Groff held their annual Duroc-Jersey boar sale in Mitchell on the 18th. About 20 boars were offered for sale at auction, but only nine of the best were sold. The crowd was small, and only a few buyers were present. The sale was topped by a nine-months-old pig that sold for \$31.50 to Chas. Hill of Pleasant Valley district. Those sold brought an average of \$20.

On Friday the County Short Course for Boys and Girls in session at Scottsbluff, was attended and a talk was given the boys on swine judging. About 75 were present.

According to data received from the different shipping points, 620 cars, (approximately 161,200 head) of sheep were shipped into the North Platte Valley during the month of October. These will be fattened and reshipped. The 620 cars were distributed as follows: Scottsbluff, 215 cars; Mitchell, 120 cars; Morrill, 71 cars; Minatare, 54 cars; Torrington, 40 cars; Haig, 39 cars; Bayard, 31 cars; Gering, 29 cars; Henry, 14 cars, and McGrew, 7 cars.

During the entire sheep feeding season of 1914, approximately 500 cars of sheep were shipped into the valley for feeding purposes. Thus in October 1915 alone the shipments have exceeded the total shipments of 1914, by approximately 120 car loads or 31,000 head. With the November shipments for 1915 the total shipments this year should exceed the total shipments of 1914 approximately 50 per cent.

The following table contains a summary of some reports recently made by Mr. Jones regarding three of his swine feeding demonstrations. Only a few of the figures and comments are given here as the results of all similar demonstrations on all the projects will probably be assembled, summarized, and distributed to the field men later in the year.

One of the herds contained 94 pure bred Duroc-Jersey hogs which were pastured on 8 acres of alfalfa from June 19 to October 15 and given a supplementary ration of corn. Another herd containing 39 Poland China hogs was pastured on 5 acres of alfalfa from June 12 to September 11 and fed supplementary rations of corn, barley, and shorts, at different times. The third herd was pastured on such a large field of alfalfa that no estimate can be made of the quantity of alfalfa actually used. The figures on the last line of the table, showing for the first and second herds the net return per acre of



DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

## North Platte (continued)

alfalfa, are only approximate, as other stock were pastured a part of the time in the same fields and there were other irregularities.

	Herd E	Herd L	Herd M
Area of alfalfa pasture.....	8 acres	5 acres	Excess
Supplementary feeds.....	corn	corn barley shorts	corn barley
Time of pasturing.....	June 19- Oct. 15	June 12- Sep. 11	July 19- Sep. 20
Length of pasture period, days.....	118	91	63
Breed of hogs.....	P.B. Du- roc-Jer.	Poland- China	Duroc- Jersey
Number of hogs.....	94	39	64
Average initial weight, pounds.....	22.7	34.1	65.6
Average final weight, pounds.....	73.1	99.4	128.0
Average gain, pounds.....	49.4	65.3	62.4
Average gain per day, pounds.....	0.418	0.696	0.99
Total gains, pounds.....	4642	2472	3995
Value of gains at 7¢.....	\$ 324.94	\$ 173.04	\$ 279.65
<hr/>			
Corn fed, pounds (@\$1.30 to \$1.50 cwt)	12,743	4,831	3,968
Ground barley, fed, lbs. (@\$1. cwt)	-----	1,600	8,192
Shorts fed, pounds (@\$1.55 cwt).....	-----	750	-----
Total grain fed, pounds.....	12,743	7,181	12,160
Average daily ration of grain, percent	2.34	3.0	3.1
Pounds of grain fed per pound of gain	2.75	3.9	3.04
<hr/>			
Total cost of grain fed.....	\$ 175.61	\$ 95.25	\$ 141.44
Cost of grain per 100 pounds gain....	\$ 3.96	\$ 3.81	\$ 3.55
Net return per acre of alfalfa pasture	18.66	\$ 15.56	Indeter- minate

The above table is given chiefly to give some idea of what some of the farmers on the North Platte project are getting for their feeds in hog production and also regarding the cost of grain per hundred pounds of gain.

The hogs in the first herd were actually sold at \$7.75 per cwt. but they are valued in the table at \$7.00 so as to be more nearly comparable with the other herds.



4 December, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

Uncompahgre.

During the week ending November 13 a visit was made to the State Agricultural College and Experiment Station at Fort Collins. Consultations were held with a number of the members of the faculty and station staff and preliminary arrangements were made for cooperation in the work on the project. The college people are planning to hold a series of farmers' institutes in the valley in the near future.

The local creamery is having considerable difficulty in securing a uniform quality of butter. Aside from this, the creamery is doing very well. The manager has the confidence of the dairymen and is drawing trade from other buyers even though he is paying about 2 cents below their prices.

There is some interest in the reopening of the old abandoned meat packing plant at Delta. The people generally seem to look with favor upon the idea of reopening this plant. It is believed that the market on the Western slope would take care of all the products of the plant. The matter is being investigated.

Minidoka.

Notes on Sheep.

A recent report from Mr. Rinehart includes some interesting notes regarding the sheep industry on the Minidoka project. The sheep population on the project decreased during 1914 from about 20,000 to about 13,600. During 1915, however, there has been a strong tendency to increase the number of herds on the project. The farmers generally appreciate the value of sheep, particularly as a means of utilizing stubble fields and waste lands along ditch banks and fence rows.

Figures obtained from six farms during the month of July indicate that one acre of good mixed grass pasture on the project will carry from 7 to 10 ewes and their lambs. Of the six sheep farms visited, two were carrying 10 ewes and their lambs, and four were carrying eight ewes and their lambs to the acre. The lambing percentage of these six flocks varied from 116 to 141. Practically no losses occurred.



4 December, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

## Minidoka (continued)

The wool clips secured on the six farms are indicated below:

Flock No.	Breed	Average Wool Clip
1	Hampshires	8 pounds
2	do	10 "
3	Range (fine wools and mixed)	12 "
4	do	16 "
5	Cotswolds	16 "
6	Lincolns	18-3/4 "

It is estimated by each of the six farmers that the wool pays for the feed of the ewes, although this is doubtful in the case of the Hampshires.

Prices of wool last spring ranged from 23 cents for the fine and middle class to 24-1/2 to 25 cents for the coarse wools. One of the farmers secured \$4.50 per head for the wool alone.



11 December, 1915.

## MEMORANDUM FOR HEADS OF OFFICES.

December 6, 1915.

Gentlemen:

As the conditions with reference to salary increase on lump fund appropriations which existed a year ago continue at the present time, it is suggested that your consideration of recommendations for lump fund promotions on January 1, 1916, be restricted to exigency cases, and that general recommendations for lump fund promotions be not submitted until toward the end of the fiscal year.

Yours very truly,  
(Signed) Wm. A. Raylor.  
Chief of Bureau.

## WESTERN IRRIGATION AGRICULTURE.

## FIELD NOTES.

San Antonio.

The maximum temperature for the week ending November 27th was 83, minimum, 32, and greatest daily range, 46.

Plowing of rotation plats in the rotation experiments was completed. Plowing of field C6 was also completed. Cotton stubble on part of field AB8 was double-disked and oats planted thereon. Sorghum from plats in 4.1" drills in the rotation experiments was hauled in. Flax and Canada field pea varieties were planted on field B4 on the twenty-sixth.

Mr. O. F. Cook spent the 21st at the Farm.

Yuma.

During the week ending November 27 the following temperatures were recorded: Maximum 83, minimum 31.5 and greatest daily range 46. Eighteen acres were irrigated.

Grain sorghum was harvested from borders C-44 and 45, also alfalfa was harvested from C-41, D-19, 21 and 25.

Alfalfa fields B-15 to 22 were plowed, a small crop of hay being turned under.



11 December, 1915.

WESTERN IRRIGATION AGRICULTURE.  
FIELD NOTES.

## Yuma (continued)

The following amounts of green material and the equivalent of air dry hay have been turned under on the various alfalfa borders plowed this fall.

Plat No.	Tons per Acre	
	Green	Air Dry
A-3	.9	.26
A-4	.38	.14
A-13-6	.33	.15
A-13-7	.55	.20
A-22	.39	.17
B-11-12	.63	.28
B-13	1.04	.45
B-14	1.93	.69
B-15	1.21	.52
B-16	.64	.28
B-17	1.02	.43
B-18	1.15	.47
B-19-20	1.35	.58
B-21-22	1.13	.48
E-9	2.82	1.00

Picking of the thinning experiment of Durango cotton on C-27 was begun this week.

Melon varieties on plat A-8 were planted January 25 and during the season produced fruit as follows:

Variety	D A T E			Yield per acre (Tons)	Av. weight per melon (pounds)
	First Ripe	Greatest % Ripe	Last Harvested		
Klechly Sweet	6-5	9-2	9-21	31.68	10.1
White Seeded					
Chilian.....	6-14	8-7	9-21	26.35	13.44
Black Seeded					
Chilian.....	6-15	7-17	9-11	20.01	13.16
Klondike.....	6-12	9-2	9-21	18.21	15.91



11 December, 1915.

WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

Belle Fourche.

During the week ending December 4, the maximum temperature was 54, minimum temperature 7, and precipitation .01 inch.

The following table gives the yields of the variety test of corn for 1915. Six rows of each variety were grown.

Variety	Average pounds per row	Average bushels per acre
Marten's White Dent.....	18.4	23.7
North Dakota White Dent.....	15.3	19.6
Northwestern Dent.....	26.5	34.1
Navajo.....	15.5	19.9
Disco 90 day.....	17.7	22.7
Disco pride.....	18.1	23.3
White Australian.....	17.4	22.4
Disco 85 day.....	18.3	23.5
Gehu Flint.....	22.3	28.7
U. S. Selection.....	15.8	20.4
Payne's White Dent.....	17.3	22.2

The Northwestern Dent and Gehu Flint were the only two varieties that matured properly. All other varieties were total failures as far as ripening was concerned.

The following table summarizes the results of the fall irrigation experiment for 1915. It will be seen that the yields of all crops that were fall irrigated were lower than those not fall irrigated, except the yield of corn fodder. All the crops were grown in duplicate quarter-acre plats. The figures in the table are the averages of the duplicate yields.

Soil moisture samples were taken in the spring and due to fall rains in 1914 and rather unusual amounts of snow and rain in 1915, there was no appreciable difference in moisture content in two different treatments. In the two years work, fall irrigation has decreased the yields of all crops except wheat in 1914, which showed a difference in favor of fall irrigation of eight bushels.



11 December, 1915.

WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

## Belle Fourche (continued)

Crop	Average Yield per Acre				Difference against fall irrigation	
	Grain, Bushels		Straw or Fodder, Lbs.		Grain	Straw & Fodder.
	Fall Irrig.	Not Fall Irrig.	Fall Irrig.	Not Fall Irrig.		
					Bus.	Pounds
Wheat	21.7	23.6	2200	2485	1.9	285
Oats	65.8	80.2	2070	2310	14.4	240
Barley	35.3	38.4	2060	2100	3.1	40
Flax	17.6	17.7	1545	1685	0.1	140
Corn	28.7	31.5	2350	1850	2.8	-500
-----						
Beets tons..	4.35	5.83				1.48
Potatoes bus...	92.4	102.4				10.0

## Scottsbluff.

Dairy Report for November.

The cows have fallen off considerably in milk production this past month. We have fed up practically all the turnips, and all that the cows are receiving now is hay. We are trying to make some arrangements to secure some cottonseed meal or cake to see what effect that will have on the milk flow. Two of the cows are dry, one of these is Beauty, the Holstein cow, that was bloated, and the other is Wonder, the grade Jersey.

Butterfat is going up at the present time; it is 30 cents per pound at Mitchell. Scottsbluff is not handling any cream at all. Nearly every farmer brings in his butter instead of cream. The present price of butterfat is making the farmers rather hopeful, and should this price continue, indications are that a large number of farmers in the outlying sections will go into the dairy work.



11 December, 1915.

WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

## Scottsbluff (continued)

The following table gives the results for the month of November, 1915.

Pounds Milk	Butterfat					Hay		Turnips Pounds	Profit or Loss
	Av. Test	Total	Market Price	Value of	Cost of	Pounds	Value		
Wonder					cent	1190	\$2.97		
Rose									
252.65	4.6	11.62	28¢	\$3.25	32.4	1190	2.97	800	-0.52
Marie									
488.85	3.8	18.57	28¢	5.19	20.2	1190	2.97	800	+1.42
Mabel									
590.40	3.4	20.07	28¢	5.61	18.7	1190	2.97	800	+1.84
Beauty						1190	2.97		
Maud									
421.1	4.2	17.68	28¢	4.95	21.3	1190	2.97	800	+1.18
Stella									
332.2	5.6	18.6	28¢	5.20	20.2	1190	2.97	800	+1.43

Turnips valued at 80¢ per cwt.

Table Showing Amount and Value of Skim Milk of each Cow during November, 1915.

Cow	Skim Milk		
	Total Pounds	Value	Total Value
Wonder....	----	---	---
Rose.....	214.8	25¢	.54
Marie.....	415.5	25¢	1.04
Mabel.....	501.8	25¢	1.25
Maud.....	357.9	25¢	.89
Stella....	282.4	25¢	.71
Beauty....	-----	---	---



## DEMONSTRATIONS ON RECLAMATION PROJECTS.

## FIELD NOTES.

North Platte.

Notes on Denver Hog Market.

During the week ending November 13, a visit was made to Denver for the purpose of becoming better acquainted with the hog market conditions there.

The trip began on Monday, leaving Mitchell on the 8: A.M. passenger train. Practically all fat hogs shipped to Denver from the valley, are picked up by the eastbound morning passenger and taken as far as Bridgeport. The trip from Bridgeport to Denver is made by freight. Ordinarily the freight leaves Bridgeport for Denver soon after the arrival of the passenger. On this trip, however, while the passenger reached Bridgeport at 9:45 A.M., the freight did not leave until 1:45 P.M. It reached Denver at 7:30 the following morning. Thus the hogs shipped from the valley Monday morning were enroute 24 hours, going a distance of 250 miles. This is a very poor run considering the distance traveled, and causes some shrink in weight. It is hoped that arrangements will soon be made whereby better time can be made after the hogs reach Bridgeport.

Immediately upon arrival at the stock yards at Denver, the hogs are unloaded, placed in pens, and fed and watered by the commission company to whom they are consigned. This is done regardless of the time of arrival, day or night.

The heaviest shipments of hogs are received in Denver on Tuesdays and Thursdays. On the Tuesday of this visit, there were 24 cars containing 1769 hogs on the market. This was about normal for Tuesday. These 24 shipments were from western Nebraska, Colorado and Idaho. Seven car loads came from the North Platte Valley. Nine shipments were from the vicinities of Twin Falls and Idaho Falls, Idaho. Three shipments were from Farmers' Cooperative Companies in south-eastern Nebraska. There are 18 Farmers' Cooperative Companies in south-eastern Nebraska and eastern Colorado that are shipping fat hogs to the Denver market.

Of the 24 car loads of hogs on the Tuesday's market, 12 were of solid color and 12 were mixed. The 12 car loads of solid color consisted of 8 cars of Duroc-Jerseys and 4 cars of Poland-Chinas. In the 12 loads of mixed hogs, Duroc-Jersey and Poland-China blood predominated, with occasionally some Chester White blood. There were no Tamworths, but very few Berkshires, and perhaps a half-dozen Hampshires. There were 22 cars of fat hogs and 2 loads of shoats.



11 December, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

## North Platte (continued)

Mr. Hobbick of Minatare, topped the market for the day with a car load of 65 Poland-China gilts and young sows, that sold for \$6.85. They were sold by Mr. "Bill" Nigh, of the Great Western Commission Company to the Colorado Packing Company. The larger part of the fat hogs sold for \$6.60 and \$6.65 per cwt., except the Idaho hogs, which sold for \$6.40 and \$6.45. Messrs. Thompson's, Preston's and Garret Brothers' hogs, from the valley, sold for \$6.60.

The Garret Brothers' 2 loads were much more uniform in size and better fitted than Mr. Thompson's 2 loads in which there were several old sows; but they all sold for the same price. The same commission company sold all four loads. The buyers at the Denver market seem to discriminate but very little, if any, among car loads of hogs that have a straight color. It often appears that not enough discrimination is made between hogs of quality and finish over the more common hogs. This was the case with the Garret Brothers' and Mr. Thompson's hogs.

The Idaho hogs usually sell from 20 to 25 cents per cwt. under hogs from other sections. The reason the buyers give for this discrimination is that the Idaho hogs are often received in rather poor condition, and are fattened largely on barley and wheat, and do not dress out well. One car load of Poland-China shoats sold for \$6.00 cwt. One car load of 128 shoats (Duroc-Jerseys) of an average weight of 89 pounds, sold for \$5.50 cwt. The latter were bought by a Denver butcher who makes a specialty of pig pork one or two days of each week.

As at all markets at the present time, the Denver market much prefers the lighter hogs, those weighing from 190 to 225 pounds. Unlike most other markets, however, the Denver market has always favored the light hogs on account of its being largely a fresh pork market.

Practically all of the offerings were sold by 10:30 A.M. and weighed up before noon. Hogs that come in during the afternoon are usually held over and sold the following forenoon.

The various expenses in connection with marketing at Denver a car load of hogs from the North Platte Valley are shown in the following table. The second column shows the fixed rates and the third shows the approximate cost of marketing and average car-load of 18000 pounds. It is assumed that the car contains 90 200-pound hogs.



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DEMONSTRATIONS ON RECLAMATION PROJECTS.  
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## North Platte (continued)

Item	Fixed Rates	Approximate cost of marketing 18000- lb. car - 90 200-lb. hogs.
Minimum weight.....	17,000 lbs per car	-----
Freight, project points to Denver	23¢ per cwt.	\$ 41.40
Yardage at Denver.....	8¢ per head	7.20
Corn fed at Denver yards.....	\$ 2.50 per cwt.	12.50
Selling commission.....	\$ 10. per car	10.00
Inspection fee.....	15¢ per car	.15
Insurance.....	10¢ per car	.10
Total.....		\$ 71.35
Cost per cwt.....		\$ .39

Up until the last few months, Idaho hogs have all been going west, but, presumably on account of decreased demands at the western markets many of them are now coming to Denver. This makes a rather long trip for fat hogs. Most of the Idaho hogs that were on Tuesday's market, were loaded the Friday previous. In other words they had been enroute approximately 90 hours. This causes an enormous shrink in weight, especially when the hogs have been fattened on soft feeds. The shrinks on three of the cars from Idaho on Tuesday's market were respectively as follows: 2200 pounds, 2300 pounds and 2350 pounds. The shrink on the Idaho shipments usually runs from 400 to 2400 pounds per car.. The shrink per car load of hogs shipped from the North Platte Valley usually runs from nothing to 600 pounds. The shrink on Mr. Hobbick's load was 36 pounds. These hogs had been corn fed. The shrink on a car load of hogs fed ground barley and corn recently shipped by Mr. Rhode, was 470 pounds.

One reason for the Idaho hogs making such a heavy shrink, is on account of their failure to take on a good fill of corn at destination. Most of them have been used to barley and wheat and not used to corn. Instead of eating the corn greedily as the hogs do that are use to corn they merely nibble at it and leave a greater part of it uneaten.

The shrink on a car load of hogs from shipping point to destination will depend upon the following factors: Character of fattening ration fed; method of feeding and handling just prior to shipment; length of time enroute; care while enroute; and fill after reaching destination.



11. December, 1915.

DEMONSTRATION ON RECLAMATION PROJECTS.  
Field Notes.

## North Platte (continued)

With the rapid increase of the swine industry in the western states, it seems that Denver should soon become one of the leading hog markets. Armour & Company have just recently expressed their intention of greatly increasing the capacity of their Denver packing plant. During October, 1914, 19,731 hogs were received in Denver. During the same month in 1915, the receipts were 33,009 hogs. This is an increase of over 67 per cent. In 1914, the total hog receipts in Denver were 280,000. During 1915, the total receipts up to November 1, were 282,388. In other words the receipts for 10 months of 1915 exceeded the receipts for 12 months in 1914.

## Truckee-Carson.

During the week ending November 27 there were received 25 calls for assistance and 7 farms were visited.

There was much activity on the part of the farmers in connection with marketing their turkeys for the Thanksgiving market. There was considerable competition among buyers and representatives of commission houses. Twelve firms in all were represented here and 50,600 pounds of dressed turkeys were shipped out of this project by express to Pacific Coast points. The price received upon delivery here was from 18 to 23 cents. A great many growers consigned their stuff to commission men expecting to realize a better price, but the condition of the San Francisco and Oakland markets was unfavorably influenced by bad weather and a big unexpected shipment of turkeys from Oregon. Because of these circumstances, the net prices received through the commission men were about the same as were paid locally.

On Friday of this week Prof. Jacobsen of the Agricultural Chemistry Department, University of Nevada visited the office for the purpose of securing cooperation in selecting samples of alfalfa hay of different cuttings and from widely different types of soil. Some time was spent securing these samples, of which 28 have been forwarded for analyses. There seems to be a variety of opinion among ranchers here regarding the merits of the different cuttings of hay. The type of soil is also thought to influence the quality of hay grown on it. The chemistry department contemplates some work on causes of bloat from feeding and grazing alfalfa. The results of analyses of samples of alfalfa hay sent from here are looked forward to with considerable interest by the farmers.



11 December, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

Boise.

The work for the week ending November 27 has been rather miscellaneous and largely along the line of animal diseases.

On Wednesday a visit was made to the farm of Pierce Trunnell, where a large herd of hogs was given the serum-alone treatment on November 1st and 2nd. Conditions were not at all satisfactory and there is likely to be considerable loss in the herd. Losses had nearly ceased at the time of a sudden change in the weather but with the coming of snows and cold rains new cases began to develop. This may be attributed to several causes: The hogs have no shelter and pile up badly; no attempt has been made to separate diseased animals from the herd; carcasses, unburned or only partly burned, have been left in the field for the hogs to eat.

There have been no new outbreaks of cholera this week as far as learned.

A call was received on Monday to investigate trouble among sheep on the farm of F. A. Nourse, near Meridan. Sheep have been dying on this ranch during the past two years and no diagnosis had been made of the trouble. At the time of the visit no sheep were dead and the owner was advised that the State Veterinarian or a federal veterinarian would investigate the cause of the loss if any more deaths occurred. A few days later the State Veterinarian and Dr. Dill of the B. A. I. visited the farm and Dr. Dill diagnosed the trouble as a very clear case of liver flukes.

The month's test on the herds of Mr. Cooper and Mr. Rees was made on Tuesday morning. Mr. Cooper has recently begun feeding ensilage, but, although the quality of the feed seems good and the cows eat it readily, a noticeable falling off in milk flow without any increase in fat test has resulted. Mr. Rees' cows, without silage have gained considerably over last month's production. They have been turned on good pasture, however, after having been kept in a dry lot all summer.

On Monday the three herds of dairy cows which were given the tuberculin test last week, were visited. No positive reactions were found, the only cases which were at all suspicious being at the State Farm. These were tested by the subcutaneous method but did not react, although one cow gave a fairly typical reaction with the intradermal test.



11 December, 1915.

## DEMONSTRATIONS ON RECLAMATION PROJECTS.

Field Notes.

## Minidoka.

For the first time since last February the week ending November 27, passed without calls to see hogs that were sick or unthrifty.

Mr. Kjosness, County Agent of Power County, visited the Project on Tuesday for the purpose of selecting pure bred Hampshire sheep for a Mr. Davis of that county. Owing to the demand for this breed there were none for sale as several Project farmers have recently started into this business, securing most of their foundation stock from this project. Mr. Bray, however, consented to let a few go for advertising purposes as there are no pure bred sheep in Power County. The stock was selected but the purchasing will be done by Mr. Davis direct. Mr. Bray's flock consists of 100 ewes selected from the Butterfield stock at Weiser and the Leighton stock at Boise. Good imported rams are used. From this flock kept on thirty-five acres a cash return of \$4,000 has been received this year. As previously reported this flock sheared 10 pounds of wool to the head while the percentage of lambs raised was 141.

The Acequia Cheese Factory, organized last winter by the farmers against the advice of this office and the Salt Lake Office of the Dairy Division, opened in October. From 170 to 200 pounds of cheese are being made daily. The quality is of the best. The returns from a hundred pounds of milk are remarkably high averaging higher than 12 pounds of cheese. The average test of all the milk is 4.25 per cent. The average daily production from each cow is 18 pounds of milk. The Rupert Cream Stations (four in number) are accused of unfair competition, the returns on the cream for the week previous to the opening of the factory being reported by various patrons and stockholders of the cheese factory as being increased from one-fourth to one-third. This was done by higher tests rather than an increase in the price of butterfat. However, butterfat at Rupert is now worth as much as at Twin Falls and Pocatello to which points the cream is shipped. Formerly it has always been two cents less. An appeal for an investigation was diverted to the State Dairy and Food Commissioner as this problem comes under his jurisdiction. Some difficulty is being experienced in finding a market for the cheese. Mr. Frevert, of the Salt Lake office of the Dairy Division, has been asked to send them the names of reliable Wholesale and Commission Firms that might be induced to handle their product.



11 December, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

## Huntley.

Owing to bad weather and bad roads, very little field work was performed the week ending November 27.

Arrangements were made with Project Manager, Fifield to enlarge the Reclamation Service survey so as to obtain some special information regarding livestock.

A trip was made to Billings where information was secured regarding the present wholesale market for cheese. If good cheese were now being made on the Huntley project, it could be disposed of in Billings at 17 cents per pound wholesale.

Fifty-one samples of milk were tested in the office during the week.

The following men in addition to those already reported have signified their intention of putting in some irrigated pasture next spring: Alvin Bowman, 5 acres; Otto Fritz, 5 acres; L. W. Pim, 5 acres; and E. C. Hackney, 10 acres.

During the week ending December 4, 1915, a trip was made to Bozeman for the purpose of making arrangements to hold a series of farmers' meetings on the project this winter, in cooperation with the Extension Department of the Montana State Agricultural College. It was arranged to hold three series of week-end meetings.

The first series will occur on Thursday, Friday and Saturday afternoons of the second week in January. Dr. Hartman will be the principal speaker and will discuss subjects relating to swine production. At the second series which will be held during the second week in February, subjects relating to the dairy industry will be discussed, and Professor Linfield will be the principal speaker. The third series will be held during the second week in March and crop production subjects will be under discussion. Professor Atkinson will be the principal speaker.

Owing to the very bad roads, only a very little field work could be accomplished this week.

## Tieton.

The rainy, snowy weather continued during the week ending November 27, making field work practically impossible. Farmers are busy getting in shape for the winter for the early snow caught many of them unprepared.



11 December, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

## Tieton (continued)

The Cascade International Live Stock Show has been the principal attraction this week in the Pacific Northwest. About 2000 pure bred animals were shown in all the classes. The dairy cattle were the feature of the show, and especially the Holsteins. Prof. Kildee, of Iowa, who judged the dairy classes, pronounced the Holstein exhibition the second best ever assembled in the United States. Most of the Holsteins were owned in this state and many of them in the Yakima Valley. Twenty-five boys' club judging teams were at the Show on Monday. Dairy classes were judged Tuesday and Wednesday. The auction sales of utility classes occupied Thursday, Friday and Saturday, the sale of Holsteins taking all of Friday. Prices of pure bred Holsteins were not as high as had been expected, 30 head of old and young of both sexes bringing only \$18,215 or an average of about \$196. About 60 per cent of the Holsteins and all of the Jerseys sold remained in the Yakima Valley. Inasmuch as the attendance at the show was only 50 people for the first two days and but little better during the best of the week, it has been necessary for the Yakima business men to pledge a guaranty fund with which to continue the show next year.

A Pacific coast dairy company has bought a large amount of hay in the lower Yakima valley and has shipped several car loads of young dairy heifers, principally Holsteins, over here from the coast to feed this winter. Hay is selling for about \$14 per ton on the coast and was purchased here for \$7 per ton with a good feeding privilege in yards on the banks of a small stream. These heifers are being offered at from \$65 to \$80. They are of good type, appear to be of good fair breeding, range from 20 to 30 months of age, some are due to freshen soon and others in from 4 to 8 months.

Three days of the week ending December 4 were spent in testing milk and making visits connected with the milk and feed records.

On Thursday afternoon "The Care and Feeding of Dairy Cattle" was discussed with farmers and pupils at the Broadway school. The request for a talk was granted because the principal is trying to interest the community in better methods of dairying and hog raising. The Broadway Pig Club has recently bought eight fine pure bred Duroc Jersey gilts from a local breeder.

The weather continues cloudy with alternate storms of rain and snow. Travel by team has been slow and less territory was covered than could be desired.



11 December, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

Tieton (continued)

Butterfat is still selling at 30 cents per pound and alfalfa hay from \$9.50 to \$10.50 per ton, baled and delivered. Prime hogs, 175 to 225 pounds, have dropped to about \$5. per cwt, many inferior individuals selling under that price.

Uncompahgre.

Monday of the week ending December 4 was spent in visiting farmers on the project. Four farms were visited where hogs and cattle were being fed.

Calls are coming in quite rapidly for help along the lines of dairying. Four inquiries were received regarding the importation of Holstein cows. There is growing interest in dairying on the project.

Beginning Tuesday, a Farmers' Institute was held at different points in the valley. Speakers from the Agricultural College of Colorado aided in this work. The meetings were held with the Granges on the project. Tuesday, the first meeting was held at Olathe with talks on bee farming by the state bee inspector, Mr. Foster, and a demonstration in concrete construction on the farm, by Mr. Long, agricultural engineer. In the evening a talk on hog raising was given. This was followed by illustrated talks on concrete and on the work of the agricultural college.

Wednesday was taken up in the discussion of bees and concrete work by the College speakers. A talk was then given on "Dairying and Hogs". Also a demonstration in Judging hogs. About 50 farmers attended these meetings.

Thursday was taken up at the Montrose High School and the Montrose Grange. The same program was carried on as at Olathe. The attendance was 75. On Friday the attendance at Oak Grove was 125. Saturday the Institute work was finished at the Uncompahgre Grange. At each of the places talks on hogs and dairying were given.

So far this fall some 400 car loads of feeders and fat stock have been shipped from the valley. Most of these were sent to the Denver yards, but some went to Kansas City. Twenty cars of hogs have been sent to the Denver market. On account of the high freight on hogs (45-1/2¢ per cwt.) there is some interest shown in the forming of a local packing plant. On account of the great increase in the number of hogs being raised on the project the market problem with the farmers is a very important one. The hogs are sent to the Denver market and the finished product returned to the Consumer here. It is



11 December, 1915.

DEMONSTRATION ON RECLAMATION PROJECTS.  
Field Notes.

## Uncompahgre (continued)

reported that \$200,000 in pork products are annually sent in from outside packing plants.

Butterfat at present is 27¢ at the local creamery. This is the only creamery on the project. Hogs are being sold to the local markets at 7¢ dressed. The potato growers who stored their product are receiving 85¢ as compared with 50¢ at the time of digging.

## Shoshone.

During the week ending November 27 six farm visits were made, two stock sales were attended, seven calls were received at the office, and consultations were held with thirty-four other men.

Assistance is still being offered farmers in ordering a car load of best sugar syrup and an article was published in the local papers stating prices and conditions for ordering. Some farmers who have been feeding beet sugar syrup, in previous years, do not need it as yet because they are still feeding beet tops to their cows. One drawback to ordering syrup is that the factory requires a deposit of \$7. for each barrel, this deposit to be returned when the barrel is sent back to the factory.

Twenty-nine applications were made during the week for the hard bearded wheat, which the Huntley Experiment Farm has offered to furnish to a few farmers. There seems to be quite an interest in hard wheat because of the fact that soft wheat is at a disadvantage this year when prices are low for wheat which must be sold to feeders.

The first of the two sales held this week was for the purpose of dividing a partnership. It was a failure because the buyers seemed to think that the partners would bid in anything that was going below value but would allow anything to sell that was going above value. All the hogs were sold, at about \$4 per cwt., a very low price for hogs of the character of those sold. Only a few cattle were sold, and for very low prices. The other sale was a fairly good one for the owner. The horses and cattle sold for fair prices. This was not true of some, however, he was disappointed in the prices he received for registered Duroc-Jersey hogs of good breeding. A two year old boar, well bred and of excellent individuality sold for \$22.50. Some pigs, eight weeks old, eligible to registry, went for \$5 each.

An effort is still being made to find some breeding ewes for a few of the farmers on the project and the proposition was discussed with Mr. O'Donnell. There are quite a few ewes on the project, but it seems difficult to find any for sale.



11 December, 1915.

## DEMONSTRATIONS ON RECLAMATION PROJECTS.

Field Notes.

## Shoshone (continued)

The milk testing club is still in course of organization. About ten members have started work to date.

A visit was made to the beef herd which had the largest representation on the Forest Reserve Range this summer. The owner expressed himself as having been very well satisfied with the results. The cows which calved on the range and suckled their calves all summer are in better condition than cows which were kept at home for dairying, and were fed all the alfalfa hay that they would eat. These spring calves have made good growth. The yearlings did not fatten very well but they have made good growth. Another herd which was on the range, was also visited and the owner expressed himself as being well satisfied. The calves which he sent to the range did fully as well as those which he kept at home and fed. One of his calves was lost but he expects to be paid for it out of the insurance fund. The insurance fund which was made up from an assessment of 50¢ a head before the cattle were sent to the range, was not enough to cover the loss, so it is expected that an additional assessment of 25¢ or 50¢ per animal will have to be made.

There seems to be some dissatisfaction among the dairymen regarding the variations in their cream tests. An article was written for the local papers, stating the causes for variation and discussing each cause.

The following figures, showing the results secured with a herd of ten cows during the month of October, have been compiled from a report submitted by Mr. Magruder. According to that report it appears that the herd was pastured on grain stubble for 5 days during the month, fed corn fodder and alfalfa hay a part of the time, and corn silage and alfalfa hay the remainder of the time. The following is an estimate of the feed consumed, each cow being charged with the same quantity:

Feed	Per Cow	For the Herd
Alfalfa hay, pounds.....	310	3100
Corn fodder, "bundles"...	40	400
Corn silage, pounds.....	175	1750
Pasture, cow-days.....	5	50



11 December, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

## Shoshone (continued)

No statement is made as to the value assigned to the different feeds but the total quantity of feed is valued at \$28.60, or \$2.86 per cow. The price received for butterfat was 27 cents a pound; the value of skim milk is not considered. All the cows are grade Guernseys except numbers 1, 5, and 6, which are designated as "mixed".

The production of the ten cows for the month of October is shown in the table below, which also shows the age of each cow and her month of lactation. It is believed that these figures represent a production somewhat above the average for herds on the project containing such a large proportion of young heifers.

Cow No.	Age, Years	Month of lactation	Milk Lbs.	Test %	Butterfat		Value of Fat, Less Cost of Feed	Returns per Dollar of Feed Cost
					Pounds	Value		
1	6	2	741	4.0	29.64	\$ 8.00	\$ 5.14	\$ 2.80
2	3	7	361	5.0	18.05	4.87	2.01	1.70
3	2	6	408	4.9	19.99	5.40	2.54	1.89
4	2	6	377	4.4	16.58	4.48	1.62	1.56
5	5	2	496	4.2	20.83	5.62	3.76	1.96
6	5	3	703	4.0	28.12	7.59	4.73	2.65
7	3	1	783	4.2	32.88	8.88	6.02	3.00
8	2	6	315	4.7	14.80	4.00	1.14	1.39
9	2	1	434	3.7	16.05	4.33	1.47	1.51
10	2	3	540	4.2	22.68	6.12	3.26	2.30
Herd			5158		219.62	\$59.29	\$30.69	\$ 2.07
Average..			516	4.3	21.96	\$ 5.93	\$ 3.07	\$ 2.07

The average production of milk, 516 pounds per cow, is equal to only about two gallons a day. This is not a bad average considering the fact that five of the animals are two-year-old heifers. It appears that the herd paid very good prices for the feeds consumed.



11 December, 1915.

## DEMONSTRATIONS ON RECLAMATION PROJECTS.

Plans of Structures Used in Swine Production.

Arrangements have been made with the Office of Public Roads and Rural Engineering whereby, Mr. Wallace Ashby, Farm Architect of that office, will visit certain of the Reclamation projects to secure information on which to base the preparation of plans and bills of material for structures used in swine production.

Mr. Ashby will begin these visits January 1, 1916, and continue for about two months. The following projects are to be visited, in the order named: North Platte, Uncompahgre, Truckee-Carson, Tieton, Boise, Minidoka, Shoshone and Huntley. From 4 to 8 days will be spent on each project.

On each of these projects, information will be secured through the field man of this office relative to climatic conditions affecting the types of structures needed, building materials locally available, swine production methods, and other factors to be considered in connection with hog houses and other structures used in the swine industry. Consideration will be given to such structures as colony houses, individual farrowing houses, feeding floors, watering devices, sanitary wallows, self feeders, dipping vats, fences, and feed storage. Plans will be formulated for one or more types of each of these structures suitable to the conditions on each project.

At the conclusion of the trip, sets of blue prints of plans and bills of material will be prepared and made available to our field men.



18 December, 1915.

PERSONAL SERVICES,  
Payment for.

Memorandum for heads of offices dated December 13, 1915, and signed by the Chief of Bureau, reads as follows:

"As some misapprehension apparently exists regarding the policy of the Bureau with reference to payment to employees of the Bureau for materials furnished or services rendered, it is suggested that all members of your force be reminded that in no case will such payments be made under general letters of authorization nor unless specifically authorized. Payment of an employee for transportation in his personally owned and operated vehicle of another employee can not legally be made, as such transportation involves personal service for which additional compensation can not be allowed."

## TRAVEL.

Following is the full text of Memorandum for Heads of Offices, dated December 4, 1915, and signed by the Chief of Bureau.

"There appears to be some misunderstanding regarding the amount for which reimbursement may be claimed in case employees of the Government are traveling under letter of authorization and are accompanied by persons whose expenses are not covered by authorization. The decisions of the Comptroller of the Treasury covering this point are as follows:

"Where equal accommodations are furnished to and shared by a Government employee and his wife jointly at a certain fixed price for the two, the Government employee if in a travel status, is entitled to reimbursement for one-half of the total amount so expended if within his fixed maximum allowance."

(Comp. 291. XXI)

"Where a Government employee who is traveling on official business occupies a room in a hotel jointly with his wife, only one-half of the hotel's charge for room paid by the employee may be reimbursed to him, notwithstanding that the charge for the room when occupied by the employee alone was greater than one-half of the charge for joint occupancy, and the additional charge for the wife's joint occupancy was fixed by the hotel at less than one-half of the charge for occupancy for both."

(Comp. 599. XXI)



18 December, 1915.

## Travel (continued)

'Where joint expenses of subsistence are incurred by a Government employee and his wife while such employee is absent from headquarters on official business for the Government, reimbursement is authorized for one-half of the total amount so expended if within his fixed maximum allowance.'

(Comp. 622. XXI)

(Expenses for infant 2 years old not considered by Comptroller.)

When traveling on official business, accompanied by wife or other person whose expenses are not covered by the letter of authorization but whose expenses are being paid by the Department employee traveling under letter of authorization, subvouchers should be obtained for the total amounts paid for lodging or for meals and lodging, and one-half of these sums, and one-half of other items of joint expense should be claimed in the reimbursement account, provided this amount is within the fixed maximum allowance. In case more than one person accompanies the official traveler the same principle of proportional division of the expense should be applied in claiming reimbursement.

This limitation governs reimbursement for expenses including livery or automobile hire, even if the additional person is a Departmental employee engaged upon official work."

## WESTERN IRRIGATION AGRICULTURE.

## FIELD NOTES.

## San Antonio.

The maximum temperature for the week ending December 4 was 80, minimum 27, and greatest daily range, 38.

Plowing was continued throughout the week, the plowing of fields B4, A3 and E3 being completed. Plowing of sorghum plats in the rotation experiments was started, plats B5-5, B5-10 and B5-14 being plowed. The third cutting of Sudan grass was hauled in from the rotation plats and yielded as follows: A6-18, 2464, and B4-15, 3285 pounds per acre.

The total yield of Sudan grass for the season was as follows: A6-18, 6.48, and B4-15 6.00 tons per acre.

Three cuttings were made on each plat.



18 December, 1915.

WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

## San Antonio (continued)

A new roof was laid on the back porch of the large house, the shingles of which the old roof was constructed having almost completely decayed.

Several days were spent in taking up wire and hauling in the old posts along the Corpus Christi road, the old fence in that location having been replaced by a new fence constructed of 52" woven wire and cement posts.

## Truckee-Carson.

During the week ending December 4, the maximum temperature was 62, minimum temperature 14, and precipitation .55 inch.

The filling-in and leveling of plats A5 and A6 have been completed. The general level of these two plats was raised about 10 inches. The work of releveling plats B1 and B2 was begun.

A car load of gypsum was received on December 2. This will be utilized in further experiments on black alkali on the experiment farm and on selected pieces on private farms in various parts of the project.

Beneficial results have been obtained in all but one of the experiments tried over the project this year. It was not practicable to obtain comparative yields from the treated and untreated plats, but observation showed a better growth of crops where gypsum had been added on the "Y" series, the Factory ditch riner's place and the farm of L. W. Langford. The gypsum treated plats on the farm of G. W. Latin showed no improvement in crop growth, but this soil contained sufficient chlorids and sulphates to prevent plant growth. The gypsum neutralizes only the carbonates and bicarbonates. Therefore when other salts are present in large quantities beneficial results are less likely to be obtained.

Gypsum has been added to the following alfalfa plats:

- F-1 - 2 tons per acre.
- F-3 - 2 tons per acre.
- F-5 - 4 tons per acre.

The lawn in front of the laboratory and office has been plowed, preparatory to being seeded to blue grass and white clover next spring.



18 December, 1915.

WESTERN IRRIGATION AGRICULTURE.

Field Notes.

Scottsbluff.

Very little farm work, with the exception of some plowing on field K, was done during the week ending December 11.

A foundation was put in for a shed 50 feet long, for the calves, but on account of the cold weather no further work was done on the building.

It is interesting to note that practically no hay is being shipped out of the valley this year, whereas last year the demand for hay cars could not be supplied. It is true that our hay crop is somewhat short this year, but the vast amount of feeding that is being done this year will require more hay, and perhaps more hay than has been produced in the valley this season.



18 December, 1915.

## DEMONSTRATIONS ON RECLAMATION PROJECTS.

FIELD NOTES.

## Truckee-Carson.

During the week ending December 4 eighteen calls for assistance were received, seven were visited on request and a visit was made to the creamery.

The local farmers cooperative association, which was organized about six months ago, now has a membership of 140. It is incorporated under the laws of Nevada with a capital stock of \$10,000. The association has recently secured quarters and has begun to do business. A large warehouse will be constructed at once. The association does not contemplate keeping much stock on hand, but will place orders for car loads of coal, lumber and provisions when sufficient orders have come in to warrant ordering in large amounts. One of the objects of the association is to assist in marketing live stock and other farm products for its members. A bureau of exchange has also been established in connection with the association work. The farmers of the project seem to be taking considerable interest in the association since it has begun to do business and the membership is rapidly increasing. Each member is allowed to hold one share of stock at \$10.

A flour mill company has been organized in this valley and called the Fallon Flour Mill Co. It is corporated with capital stock fixed at \$25,000 or five hundred shares at \$50.00 per share. The foundation for the new mill, 48x84 feet, has been completed. As soon as lumber arrives the work on the mill will be rushed through. It is expected that the mill will be ready for grinding March 1, 1916. Up to the present time all wheat products have been shipped into this project and the wheat shipped out for milling. It is hoped that the presence of a flour mill in this valley will greatly stimulate the growing of wheat. Much of the stock of the mill company is owned by farmers.

## Minidoka.

Only two calls to investigate sickness in hogs were received during the week ending December 4. Both were due to improper feeding.

The special meetings on the problems of swine production and the educational work along the line of the hog cholera control work will be held in as many school districts as possible. All other special meetings will be held at only four or five central points.



18 December, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

## Minidoka (continued)

In this way a comparison of the number of people reached and the work that follows can be made. As working up so many meetings requires considerable time, assistance will be furnished by the Twin Falls Office and most of the preliminary work done by them.

A centralized creamery company from Butte has had representatives on the project this week offering 37 cents for butterfat providing the cream tests 40 per cent or better. Prices at the receiving stations have been the same as at Twin Falls, namely 32 cents. Considerable cream was pledged on the Minidoka project but very little on the Twin Falls Tract where the people are more loyal to their local markets. If the new station comes in it will make a total of five at Rupert. One could handle the product very easily. If a price of 37 cents is maintained the Acequia cheese factory cannot meet the competition.

Mr. Frevert of the Dairy Division visited the project on Friday to assist with the investigation of the dairy problems.

## Boise.

Most of the week ending December 4 has been spent in arranging for winter meetings to be held in cooperation with the Agricultural Extension Department of the State University. The Extension Department has all dates filled to the second week in February, but it is hoped to have several two-day or three-day meetings during the last three weeks of February. In addition to these, numerous one-day meetings are being planned for county districts, to be held in cooperation with County agents of Canyon and Ada counties.

One day was spent in Fargo visiting men who have hay for sale, a request having come from there to assist in finding a market for the surplus, of which there is about 1,000 tons in Fargo. This is one of the new districts and while much more hay is being grown than can be used locally there is not enough close together to induce sheep feeders to winter there.

The weather for the past week has been rather warm with rain or snow on four days. The amount of rainfall has been small but the ground is becoming soft. Roads are assuming their usual winter condition and gasoline has gone up to 26 cents.



18 December, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

## Boise (continued)

At the end of November butterfat was selling at 28 cents; eggs at 35 cents; hog at \$5 to \$5.25; wheat at \$1.30; oats at \$1.05; barley \$1.10; and red clover seed at 19-1/2 cents. The Caldwell Cooperative Creamery reports the receipt during the month of November of 16,793 pounds of butterfat, for which an average price of 27-1/2 cents was paid, the total value being \$4,680.

According to a statement issued by the Caldwell Commercial Bank, the following carload shipments were made from Caldwell during the month ending November 24, 1915, and during the corresponding period in 1914:

Product	Carload Shipments	
	1914	1915
Hogs, .....	20	21
Cattle, .....	0	8
Sheep, .....	9	0
Horses, .....	11	22
Potatoes, .....	2	15
Onions, .....	0	1
Apples, .....	2	7
Flour, .....	30	34
Bran, .....	0	7
Wheat, .....	0	3
Seeds, .....	1	1
Total, .....	77	120

The same statement says that "There was shipped from (Caldwell) during the first ten months of 1910, 2 cars of hogs, and during the first ten months of 1915, 122 cars."

It would be difficult to determine what part of the above shipments came from the Boise project.



18 December, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

Shoshone.

During the week ending December 4 calls continued to be received regarding cows which had aborted.

There is quite a question as to what is advisable to do on this project where cows are so scarce and so high priced. Abortions have not affected herds in such a way as to cause very serious losses, but they are common enough to make it seem desirable to treat for contagious abortion, even though there might not be any positive proof. It is usually suggested that if the cows produce enough milk to pay for their feed that they be treated as outlined in the B. A. I. circular letter; but that if they failed in their milk, they be fattened and sold for beef.

Beet tops are still being fed to quite an extent to cows on the project. As a rule, they have been very unsatisfactory where cows have been turned in on the beet tops after the beets were pulled, because the cows seldom ate anything else, and do not get enough feed from the tops to keep up their milk production. It seems to be the general opinion that the beet tops are not very satisfactory unless they are hauled to the cows and fed to them in small amounts, so that alfalfa constitutes the greater portion of the ration. However, Mr. E. H. Loomis reports that his cows have pastured on beet tops satisfactorily. He started feeding beets to his cows about three weeks before turning them in on the tops. He started feeding the beets very gradually and got them up to full feed on the beets before turning them in on the tops. When the cows were first turned in they ate very little except the small beets and the portion of the beet which was left on the tops in the field. By the time they had consumed these, the beet tops were getting dry. In the same field with the beet tops were about three loads of alfalfa hay which had been left in cocks in the field. Since the beets are all gone, the cows have been feeding on both the alfalfa hay and the beet tops and are still holding up very well in their milk.

The second weights were taken this week in the hog feeding demonstration on the farm of L. C. Gillette, the 61 spring pigs and 6 fall shoats being re-weighed December 4. These pigs and shoats were fed ground wheat in a self feeder and third cutting alfalfa hay in a rack. They were also fed tankage during the latter part of the period. Twelve sows ate with the pigs and shoats for the first 25 days of the period, but the feed which they ate was estimated and deducted.



18 December, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

## Shoshone (continued)

The results are briefly summarized below:

Date begun, .....	Oct. 23.
Date closed, .....	Dec. 4.
Number of days, .....	42
Average initial weight, spring pigs, pounds, .....	45.95
Average initial weight, fall shoats, pounds, .....	121.50
Total gain, spring pigs, pounds, .....	2790.7
Average daily gain, spring pigs, pounds, .....	1.09
Total gain, fall shoats, pounds, .....	459.00
Average daily gain, fall shoats, pounds, .....	1.82
Value of gains at 5¢ per pound, .....	162.49
Grain fed, pounds, .....	11,711.
Ground wheat, 4846.1 lbs. @ \$1.25 per cwt.	
Ground wheat, 5865.1 " @ \$1.20 " "	
Pounds of grain per pound of gain, .....	3.60
Total cost of grain fed, .....	\$ 142.96
Tankage fed, pounds, .....	220.00
Cost of tankage at 3¢ per pound, .....	\$ 6.60
Value of alfalfa hay estimated 1/2 pound per hog per day, at 3/10 cents per pound, .....	\$ 4.22
Total cost of all feeds, .....	\$ 153.78
Value of gains above cost of feed, .....	\$ 8.71
Total cost of feed per 100 pound gain, .....	\$ 4.73

During the week three farm sales were visited. At these sales stock are not selling as high as they did the first of the season. This is probably due to the fact that most farmers have bought what they desired; and to the fact that it seems that feed will be very high priced in the spring. Alfalfa hay and oats are advancing in price rapidly.

## Tieton.

Nearly the entire week ending December 11 was devoted to milk testing and record computations, three days having been spent in the field at testing and parts of three days at compiling data for the records. Travel was performed by team and buggy, the roads still being in bad condition. The office was moved from the old quarters in the old Reclamation building to the First



18 December, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

## Tieton (continued)

National Bank building in the center of the business district where it is more easily accessible to farmers.

Dealers who are buying loose alfalfa hay for local liverymen, transfer companies, etc. are offering from \$10 to \$15 for hay situated on roads over which it can be hauled at once. Those farmers who are thus situated are making good money, but there are very few of them especially on the Tieton project.

The band of 800 ewes which were purchased by two Tieton farmers last fall are being wintered on the Columbia river. Messrs. Elliott and Sinclair drove the band down the Yakima valley buying pasture and hay en route. There is considerable interest in this venture, especially as the local sheep men are extremely optimistic over wool and mutton prospects.

An independent hog buyer has picked up a few loads of fat hogs for the Seattle market, paying from 35 to 75 cents better than the local market. This is a desirable outlet for fat hogs, provided that the results continue good.



25 December, 1915.

## WESTERN IRRIGATION AGRICULTURE.

## FIELD NOTES.

Yuma.

During the week ending December 4, four and one-half acres were irrigated. The temperatures recorded were maximum 79, minimum 34, and greatest daily range 41.

Fields B-11 to 17 were leveled, prepared and planted to grains to be handled as green manure crops. Rye and barley were seeded ninety pounds per acre and wheat at one hundred pounds per acre as follows: B-11-12, rye; B-13-14, wheat; and B-15-16-17 and A-22, barley. Peruvian alfalfa was seeded at 12 pounds per acre to borders A-1 to 8.

The Bermuda grass pasture B-42 to 45 was disked and will be seeded to barley for winter pasture.

Cotton picking continues. Nursery plantings were cultivated. Sorghum stalks were hauled from borders C-36 and D-35 to 42. Grain sorghums were harvested from fields A-25, D-8-9 and 11.

Broom corn from plats was thrashed. The yields for this season's test and those of previous years are as follows:

Season	1913	1914		1915	
Month planted	May	June	July	June	July
Variety	Tons of Brush per Acre				
Standard.....	.29	--	--	--	--
Dwarf Standard.	.22	.20	.15	.128	.174
Dwarf.....	.23	.23	.20	.143	.179

San Antonio.

The maximum temperature for the week ending December 11, was 80, minimum 37, and greatest daily range, 34. The first rain for several weeks came on the 7th when a rain of 1.1 inches occurred. The total precipitation for the week was 1.2 inches.

During the wet weather, labor was utilized in ginning cotton and grinding feed, and in general cleaning up about the premises. When the soil had dried sufficiently, all of the recently plowed fields were harrowed. A general planting of oats was made on field C-6 from which the eradication of Johnson grass is to be undertaken next season. Oat selections were planted on field C-5. There are now ten selections from the selections made in 1912. The ten selections represent several of the more promising strains as well as a few of the more unpromising ones.



25 December, 1915.

WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

## San Antonio (continued)

Alfalfa planting for the root-rot experiment on A-3 was made during the week and two horsebean varieties were planted next to the field on C-4.

The new fence along the Corpus Christi Road was completed and accepted the latter part of the week.

## Truckee-Carson.

During the week ending December 11 a field south of B-2 was cleared of brush and made ready for leveling. Plats D-6-7-8, and H-1-2 were plowed and releveled.

Gypsum was spread on plat F-7 at the rate of 4 tons per acre, and on E-6 at the rate of 2 tons per acre. An application of gypsum was made on the 4 plats surrounding the ditch rider's house near the Sugar Factory. Previous to applying the gypsum, analyses were made of the soil in each plat, and the gypsum applied according to the amount of carbonate salts found. The applications were as follows:

Plat	Area	Pounds gypsum	Pounds per acre
1	.36	1300	3620
2	.44	3000	6825
3	.32	1800	5625
4	.28	1800	6430

One-half of each of the above plats was treated with gypsum in March 1915, with decidedly beneficial results, as the crop growth was markedly better on the treated than on the untreated portions. The analysis just completed also shows a diminution of the total salt content, as shown in the following table:-

Plat	Total Salts	
	Treated	Untreated
1	.321	1.042
2	.327	.419
3	.247	.461
4	.298	.852



25 December, 1915.

WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

## Truckee-Carson (continued)

The pig-feeding experiment was completed November 29. With the exception of the two pigs at Mr. Suttan's, feeding on a 3% ration was being conducted at a loss. Lot 1 was on a 3% ration for 44 days, and Lot 2 for 37 days, and net losses were obtained as follows:

Lot 1	(3 Durocs	Loss	24¢
	(3 Berkshires	"	13¢
Lot 2	(2 Durocs	"	20¢
	(2 Berkshires	"	64¢

Mr. Suttan's two Berkshires netted \$1.90 profit in 44 days.

Attempts have been made to sell 3 of the pigs in the experiment but without success, as there is no local market and no commission house buying pigs.

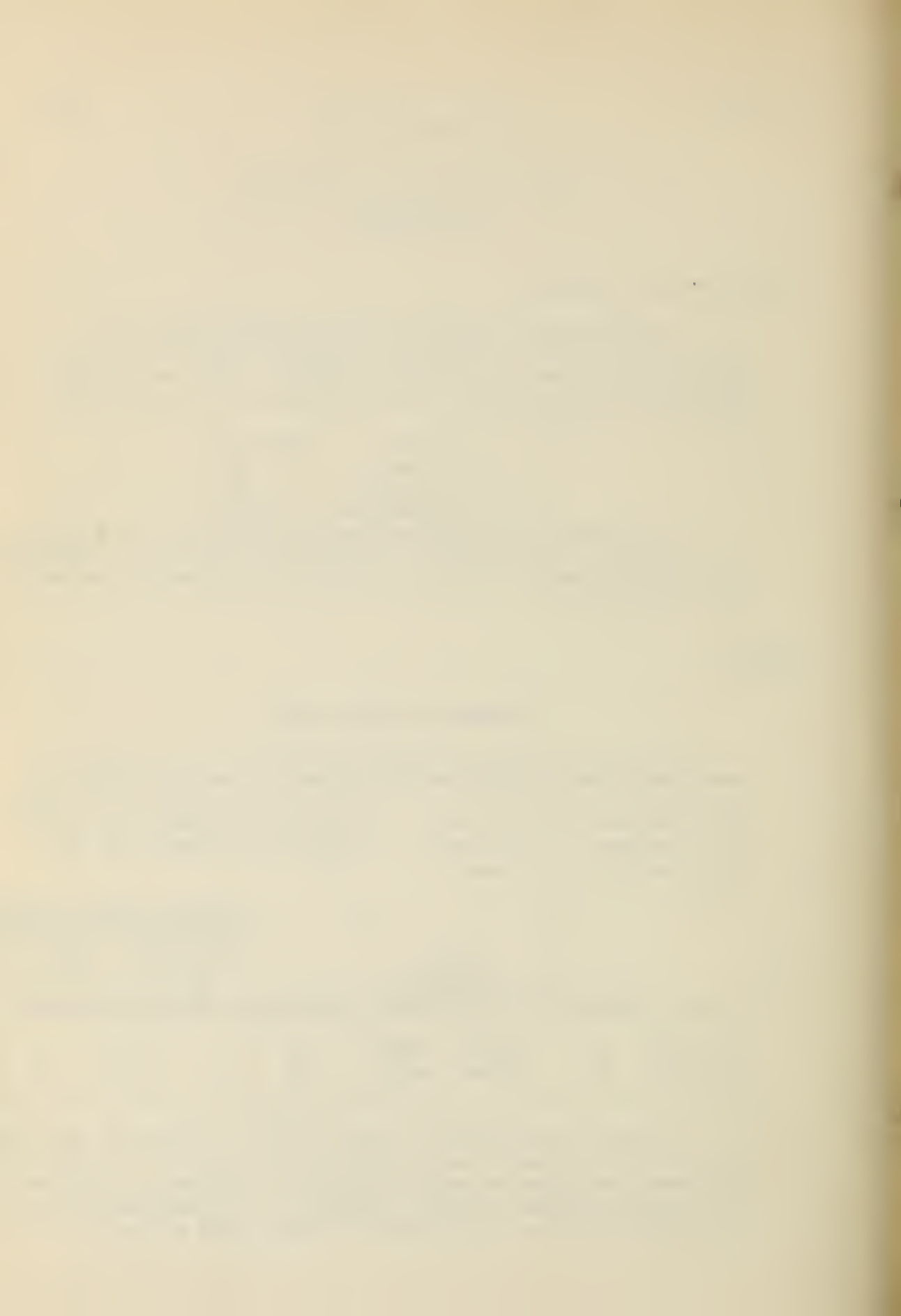
Huntley.

Shrinkage in Siloed Beets.

For the purpose of determining the amount of shrinkage in sugar beets when siloed, two lots of beets of about 12 tons each were siloed at harvest time. These beets have just been delivered to the dump. The beets in both piles were apparently in good firm condition when delivered. The following table gives the data relating to the test.

	No. days in silo	Weights, pounds		%	Average Sugar Content			
					When placed in silo		When taken out of silo	
		Initial	Final		No. Samples	% Sugar	No. Samples	% Sugar
Silo "X"	41	24632	24058	2.5	7	17.4	12	16.3
Silo "B"	59	24364	24216	2.6	29	15.7	10	16.2

The loss from shrinkage in both cases was practically the same. In one pile the loss in sugar content was 1.1% and in the other .5%. Dirt tare determinations were made both when the beets were placed in the silo and when they were taken out. The tares were made on the samples that were later used for making sugar analysis.



25 December, 1915.

WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

Huntley (continued)

Corn Varieties.

The following table gives the yields secured in the corn variety test. The season was rather unfavorable for corn and not all of the varieties were fully matured at the time of the first killing frost, which occurred on October 3. The varieties most fully matured were: Gehu Flint, Dakota White Flint, Northwestern Dent, Minnesota No. 23, Disco Flint, Rustlers White Dent, and 85-Day Disco. Samples for moisture determinations and shelling percentage were taken from each plat at husking time. The yields in each are the average of 3 one-fiftieth-acre plats, excepting of Northwestern Dent, of which there were 33 plats.

Variety	Stand, Plants	Wt. per bushels corn on cob	Yield per Acre			
			Bus. based on actual dry Wt. per bu.	Bus. @ 72 lbs. per bu.	Stover lbs	Total
Selection No. 133.....	6970	78.9	49.5	54.2	4791	8693
Dakota White Flint.....	6150	69.3	46.6	45.2	2200	5454
Disco Pride.....	6830	69.5	42.8	36.9	2391	5048
Gehu Flint.....	6160	68.7	41.9	39.8	2483	5349
Martins White Dent.....	6860	73.8	41.8	45.8	4166	7464
Rustlers White Dent....	7370	69.7	41.1	33.7	2483	4904
White Australain Flint.	5980	89.4	41.1	50.9	4816	8481
Northwestern Dent.....	6030	73.1	39.9	40.5	2376	5292
Disco Flint.....	6080	74.5	39.6	35.7	4883	7453
85 day Disco.....	6450	73.2	38.4	39.1	2741	5556
Minnesota No. 13.....	6930	70.2	37.9	37.6	2908	5615
Minnesota No. 23.....	5600	70.5	36.1	35.3	2525	5067
Average.....	6451	73.8	41.4	41.2	3230	6198

Yield of Corn in the Irrigated Rotations.

Rot. No.	Plat No.	Stover	Corn	Bus. per Acre	Estimated yield per A	Stand per A.
67	K-II-1				52.41	8176
32	K-IV-18	448.5	685.3	38.76	38.35	7660
26	K-IV-23	341.8	595.3	31.60	31.40	7836
16	K-V-2	570.0	655.1	36.14	35.39	7496
6cc	K-V-11	478.0	739.2	41.29	43.01	8272



25 December, 1915.

WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

Huntley (continued)

In the experiment with 3 lots of spring pigs in feed lot,  
the following results were obtained:

Lot 1 on 3% Corn and Alfalfa Hay.

Days	No. Hogs	Initial Weight	Gain	Av. Daily Gain	% Daily Gain
30	4	320	118	3.93	1.05

118 lbs. pork @ \$ 0.07.....\$ 8.26  
320 lbs. corn @ \$1.00 per cwt.....\$3.20  
480 lbs. alfalfa hay @ \$6.00 T..... 1.44 4.64  
\$ 3.62

Pounds of grain per pound of gain.....2.71

Lot 1 on 3.5% Corn and Alfalfa Hay.

Days	No. Hogs	Initial Weight	Gain	Av. Daily Gain	% Daily Gain
20	4	438	55	2.75	0.60

55 lbs. pork @ \$ 0.07.....\$ 3.85  
319 lbs. corn @ \$1.00 per cwt.....\$3.19  
240 lbs. alfalfa hay @ \$6.00 T..... .72 3.91  
- 0.06

Pounds of grain per pound of gain.....5.8

Lot 1 on 4% Corn and Alfalfa Hay.

Days	No. Hogs	Initial Weight	Gain	Av. Daily Gain	% Daily Gain
20	4	493	153	7.65	1.37

153 lbs. pork @ \$0.07.....\$10.71  
431 lbs. corn @ \$1.00 per cwt.....\$4.31  
240 lbs. alfalfa hay @ \$6.00 T..... .72 5.03  
\$ 5.68

Pounds of grain per pound of gain.....2.82



WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

Lot 2 on 3% Barley (Soaked) and Alfalfa Hay.

58 lbs. pork @ \$0.07.....	\$4.06
243 lbs. barley @ \$1.00 per cwt....	\$2.43
240 lbs. alfalfa hay @ \$6.00 T.....	<u>.72 3.15</u>
	\$0.91

Pounds of grain per pound of gain.....	4.19
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Lot 2 on 3.5% Barley (Soaked) and Alfalfa Hay.

50 lbs. pork @ \$0.07.....	\$3.50
324 lbs barley @ \$1.00 per cwt.....	\$3.24
180 lbs. alfalfa hay @ \$6.00 T.....	<u>.54</u>
	3.78
	<u>- 0.28</u>

Pounds of grain per pound of gain.....6.48

Lot 2 on 4% Barley (Soaked) and Alfalfa Hay.

94 lbs. pork @ \$0.67.....	\$6.58
418 lbs. barley @ \$1.00 per cwt.....	\$4.18
120 lbs. alfalfa hay @ \$6.00 T,.....	<u>36 4.54</u>
	2.04

Pounds of grain per pound of gain..... 4.45



25 December, 1915.

WESTERN IRRIGATION AGRICULTURE.  
Field Notes.

Huntley (continued)

Lot 3 on 3.5% Corn, Sugar Beets and Alfalfa Hay.

Days	No. Hogs	Initial Weight	Gain	Av. Daily Gain	% Daily Gain
20	4	577	79	3.95	0.65

79 lbs. pork @ \$0.07.....\$5.53  
 419 lbs. corn @ \$1.00 per cwt....\$4.19  
 320 lbs alfalfa hay @ \$6.00 T.... .96  
 100 lbs. sugar beets @ \$6.00 T... .30 5.45  
\$0.08

Pounds of grain per pound of gain.....5.30

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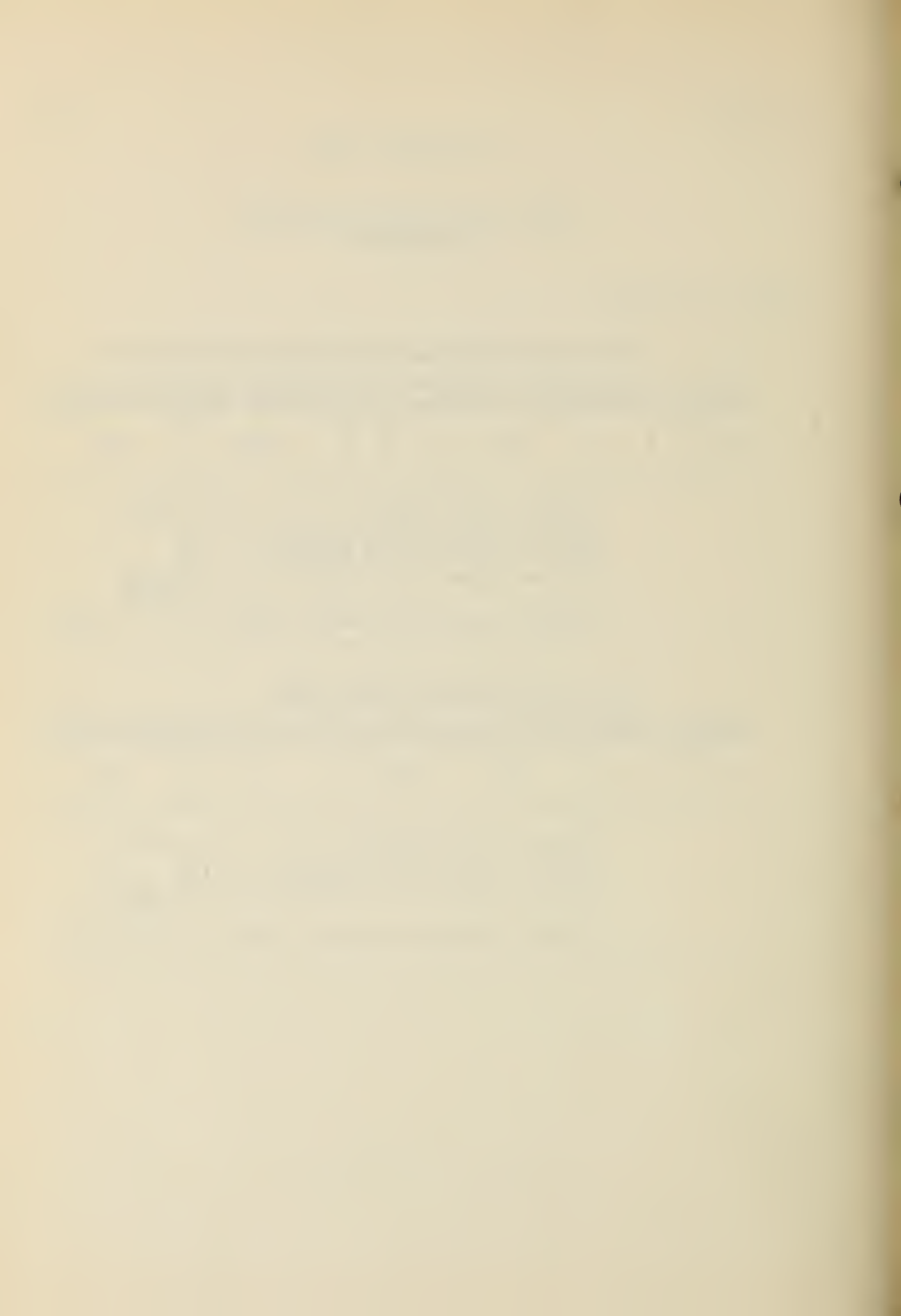
Lot 3 on 4% Corn and Alfalfa Hay.

Days	No. Hogs	Initial Weight	Gain	Av. Daily Gain	% Daily Gain
20	4	656	163	8.15	1.06

163 lbs. Pork @ \$0.07.....\$11.41  
 562 lbs corn @ \$1.00 per cwt....\$5.62  
 240 lbs. alfalfa hay @ \$6.00 T... .72 6.34  
\$ 5.07

Pounds of grain per pound of gain.....3.45

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25 December, 1915.

## DEMONSTRATIONS ON RECLAMATION PROJECTS.

## FIELD NOTES.

## North Platte.

On account of bad weather most of the week ending November 27 was spent in the office. A visit was made to the farm of Mr. Garrard, near Morrill, where an outbreak of cholera occurred October 12. Mr. Garrard has been very diligent in properly disposing of his dead hogs, in properly confining his sick hogs and in cleaning and disinfecting the hog pens. This is probably the reason why the disease has not spread to surrounding herds of which there are five within a radius of a mile.

Recently a visit was made to a vicinity where plans for an individual "A"-shaped farrowing house were furnished to a farmer a little over a year ago. This house is the type, 6 by 8 feet, with hinged sides for providing shade or sunshine for the hogs when necessary. While plans were furnished to but one farmer, there are at the present time over 40 such hog houses in the immediate vicinity, all built exactly like the house planned for the first farmer. All are giving good satisfaction.

On Monday November 29, Mr. O. B. Brown of Morrill, held his third annual sale of purebred Duroc Jersey hogs. The offerings consisted of 22 boars, from 7 to 13 months of age; 26 gilts, from 7 to 13 months of age, and 3 tried brood sows. The boar sale was topped at \$36. for a 13 months old boar that was bought by a farmer who lives at the extreme western end of the project in Wyoming. The highest priced gilt, a one year old pig, sold for \$40.00 and was bought by a farmer near Minatare, who also bought the highest priced tried sow, which sold for \$51. The 51 head of hogs sold brought an average of about \$17.00. As a whole the offerings were of fair quality, but many of them were under sized on account of not being fed heavily enough.

The Sugar Factory is now paying from \$7.50 to \$8.00 per ton for baled alfalfa hay, delivered to the cars. On account of the increased amount of cattle and sheep feeding that is being done on the project this year, and on account of the relatively low yield, the indications are that alfalfa hay will be rather scarce by next spring.

During the month of November the Farmers' Cooperative Commission Company at Morrill sold 6 car loads of hogs, three cars of fat hogs and the same number of stock hogs.



25 December, 1915.

## DEMONSTRATIONS ON RECLAMATION PROJECTS.

Field Notes.

## North Platte (continued)

Four farmers were assisted in purchasing breeding hogs during the week, and plans for hog houses were furnished to 2 farmers.

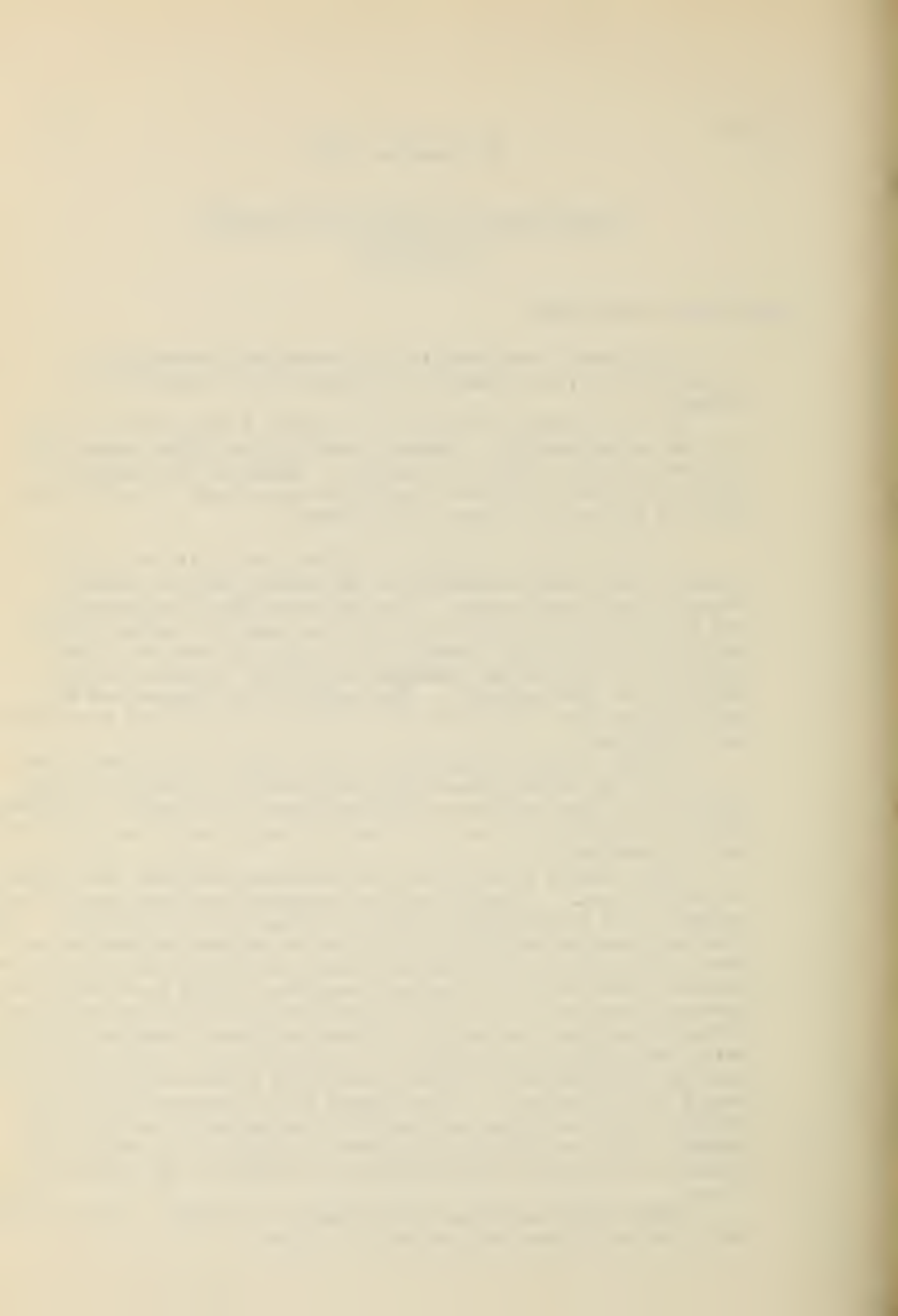
Up to the present time but very little tankage has been fed to hogs on the project. However, some of the larger swine growers are feeding it with good results. Plans are now under way for carrying on a number of feeding demonstrations in which tankage will be used as a part of the ration.

Mr. Pickering's fall pigs that were treated for sore mouth recently have about recovered from the trouble and the disease seems to have been checked. The treatment given was clipping off the black teeth, and dipping all the pigs in a rather strong solution of stock dip, opening up the affected parts and treating them with potassium permanganate crystals or with a strong solution the same compound. The spread of the disease was not only stopped, but all except two of the worst cases that were treated have recovered.

A shoat feeding demonstration was started on the farm of Fred Young in which 22 late summer pigs will receive a ration of corn, alfalfa hay, meat meal and a limited amount of skim milk. Another lot of 23 shoats will receive a similar ration except that they will not get meat meal.

Three farmers were assisted in purchasing breeding stock (hogs) during the week. Recently numerous requests have been received as to where good breeding hogs could be purchased on the project. On visiting breeding herds for the purpose of getting information as to where such hogs could be bought, it has been surprising to find how few hogs there are in the various herds that should be selected for breeding purposes. There is need of more high class breeding hogs being shipped onto the project. While registered breeding stock is being shipped in almost every week, a greater part of it is not as good as it should be. In fact, most of it is no better than can be bought on the project. It is evident that a greater part of the farmers do not know what to look for in selecting a good breeding animal. The two greater faults with the hogs on the project, especially the Durocs, is that they are too light in the ham and in bone.

Three colony hog houses were planned for farmers. One for 20 sows, one for 10 sows and another for 5 sows.



25 December, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

## North Platte (continued)

A visit was made to the farms of Messrs. Carrier and Smith where hogs were vaccinated for cholera some time ago. In the former's herd, where 26 head were vaccinated, 5 had died. All that died, had a high fever when vaccinated and the entire herd was in a very poor physical condition. Two shoats out of the 6 not vaccinated, recovered from the disease. Thirty-five hogs were vaccinated in Mr. Smith's herd. Eighteen had high fevers when vaccinated and 17 had normal temperatures. All recovered except two shoats that showed marked signs of sickness when vaccinated.

Since July 1, only one case of cholera has occurred on the project proper. The 11 additional outbreaks that have occurred have been on farms adjacent to the project but under other irrigation ditches. In the vicinity of Minatare, where the disease was so prevalent in 1914, only one outbreak has occurred since June 1. In the Dutch Flatts and Sunflower districts, where the disease caused heavy losses two years ago, no cases of cholera have occurred since December 1914.

## Truckee-Carson.

During the week ending December 11, 25 calls for assistance were received and 10 farms were visited. In herd testing, 57 samples of milk and cream were tested, representing 4 herds.

During the week, 38 head of Grade Jersey cattle were received from Sacramento Valley, California. These cattle were imported by the Churchill County Creamery, to be used on their farm.

A cooperative experiment is now in progress on a dairy farm in feeding root crops. The object of the experiment is to determine the advantage of supplementing alfalfa hay with mangels. The results so far have not been as decidedly in favor of the use of roots as had been anticipated. However, as the experiment continues the results may prove more satisfactory.

The experiment work carried on at different times in feeding supplements to a ration of first-class alfalfa hay in this locality has not proved very advantageous, especially, in short term experiments. When dairy cattle here are allowed free access to the best grade of alfalfa hay, they are maintained in excellent condition and seem to give near their maximum flow of milk. Since alfalfa hay is very abundant and almost invariably commands a low price, there is little incentive toward the feeding of supplements of any kind.



25 December, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

## Truckee-Carson (continued)

This is especially true, since such supplements as are usually fed in other localities demand a price that discourages their use here.

## Uncompahgre.

During the week ending December 11 a call came in regarding the dying of sheep. A farmer had recently imported for breeding purposes 26 purebred Shropshire ewes from the eastern slope of Colorado. They were pastured on grain stubble and on a harvested onion field and had access to some bean straw. Three of the number had died. As all three were found dead and on their backs it was thought the loss was caused by over feeding. The remainder of the flock is apparently healthy.

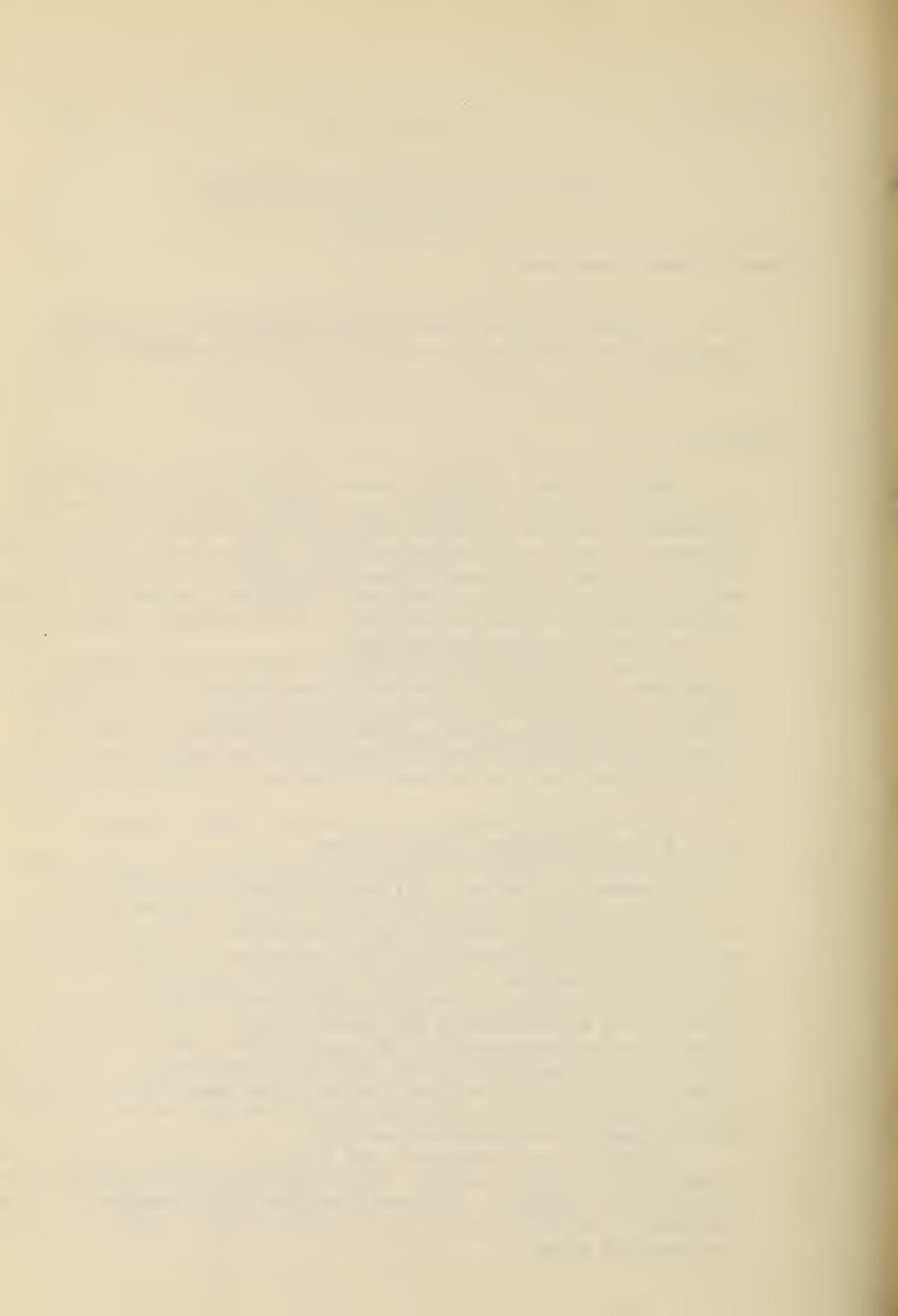
Aid was given one farmer during the week in the feeding of dairy cows. His herd of purebred Holsteins were found in poor condition while a silo full of good corn silage was found unused on the farm, together with an abundance of grain and alfalfa hay. A ration consisting of corn silage, alfalfa hay with a grain mixture of ground corn and cob meal, ground oats and bran was suggested.

The local mill reported the following prices: Bran, \$1.10; oats, \$1.40, and Shorts, \$1.25 per cwt.

A number of smaller farmers are cooperating in sending their hogs to market at Denver. Prices at Denver are 6.30 to 6.50

During the week a trip was made to Grand Junction for the purpose of investigating the meat packing plant there. A visit was also made to the sugar factory to inquire regarding the cost of low grade molasses for feeding. The price quoted was \$10.08 per ton in barrels f.o.b. Grand Junction. Some 2,000 cattle are being fed on the by-products and alfalfa hay at the sugar factory. The large mature animals consume approximately 100 pounds of wet pulp, and 3 to 6 pounds of low grade molasses, with all the alfalfa hay they will clean up. When ready for market they are fed for a few days on alfalfa hay alone before shipped. It was reported that under this system the shrinkage was no greater than when corn was fed.

During the week a movement was started at Delta to organize a sugar factory at that point. It is expected to be financed by outside capital largely. The beets previously have been sent to Grand Junction. It is planned to have the Delta plant completed in time for the 1916 crop.



25 December, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

## Huntley.

Mr. Chaplin of the Dairy Division spent the entire week of December 11 on the project in the interest of the proposed cheese factory at Pompeys Pillar. On account of the almost impassible roads, it was not possible to do as much personal work among the farmers' as was intended. A meeting of those interested was called for 2 P.M. Saturday at Pompeys Pillar. This meeting was attended by 11 farmers. Among these were only 3 who had previously promised to support the proposition, and one of these found it necessary to withdraw his promise of financial support. It was decided, however, by those present to continue the efforts to obtain a cooperative cheese factory at Pompeys Pillar.

An organization agreement was drawn up and a committee appointed to secure stock subscribers. Seventeen shares at \$25.00 each were pledged by four farmers who were present at the meeting. If the financial support previously promised materializes, there is still a probability that cooperative cheese factory will begin operations at Pompeys Pillar next spring.

Forty-two calves were vaccinated against blackleg during the week.

## Minidoka.

Of 31 calls received during the week ending December 11, one was to meet with the officers of the Pomona Grange in regard to the winter's work; one for information on Boys' and Girls' Clubs; one regarding the registration of Holsteins; one for advice on buying a farm; two on sheep; three on feeding problems; six on dairying; seven in regard to securing information concerning the production of clover and alfalfa seed and nine on problems in connection with the swine industry. In addition, 21 requests for meetings were received.

The price of hogs is still low. Many purebreds are being sold as market hogs although it is not believed that any breeders of purebred stock will go entirely out of business. Hay is practically all bought or is being held for high prices in the spring, the price now ranging from \$6.50 to \$8.00 in the stack. Five thousand tons of hay were contracted for at \$5.50 per ton delivered, early last summer for delivery to the Portland Feeder Company at Burley where steers are fed every winter. Owing to the rains in November and the absence of snow the adjoining range is now so good that the breeding flocks of range sheep are yet all on the open range.

Potatoes are from 75¢ to 90¢ (sacked), wheat (sacked) from \$1.30 to \$1.35 per cwt, fat hogs, 5¢, fat lambs 7¢ and live poultry 8 to 10¢.



25 December, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

Minidoka (continued)

Records of Idaho Cows.

The first Cow Testing Association in Idaho is now well under way on the Twin Falls tract. In some cases the cow that the owner never suspected is proving to be the best in the herd. In others the favorites are standing low in production.

The milk is weighed daily by the owner except one day each month when it is weighed, sampled and tested and the calculations made by Mr. Koster, the official tester.

Complete figures for October show that there were 25 herds with a total of 557 cows on test. Forty-five cows made over 40 pounds of fat each during the month.

Record of Six Best Cows.

Breed	Milk, Pounds	Test %	Fat pounds
Registered Hols.	1416	3.9	55
do Jers.	1106	4.6	51
Grade, Holstein	1546	3.2	49
Grade, Jersey	967	5.1	49
do do	913	5.4	49
do do	761	6.3	48

A Jersey heads the list for November.

One herd of 11 registered Holsteins produced 443 pounds of fat during the month. Another herd consisting of 26 grade and purebred Jerseys produced 978 pounds of fat during the month.

All of these herds that are doing well are stabled and carefully fed, most of them on corn silage, hay and grain.

The daily ration of the best cow is here given: Corn silage, 35 pounds; Alfalfa hay, 23 pounds, and ground barley, 4-1/2 pounds. Thus with this particular cow it takes 8.4 cents worth of raw material to produce one pound of butterfat.



25 December, 1915.

DEMONSTRATIONS ON RECLAMATION PROJECTS.  
Field Notes.

Tieton.

Progress in Cow Testing.

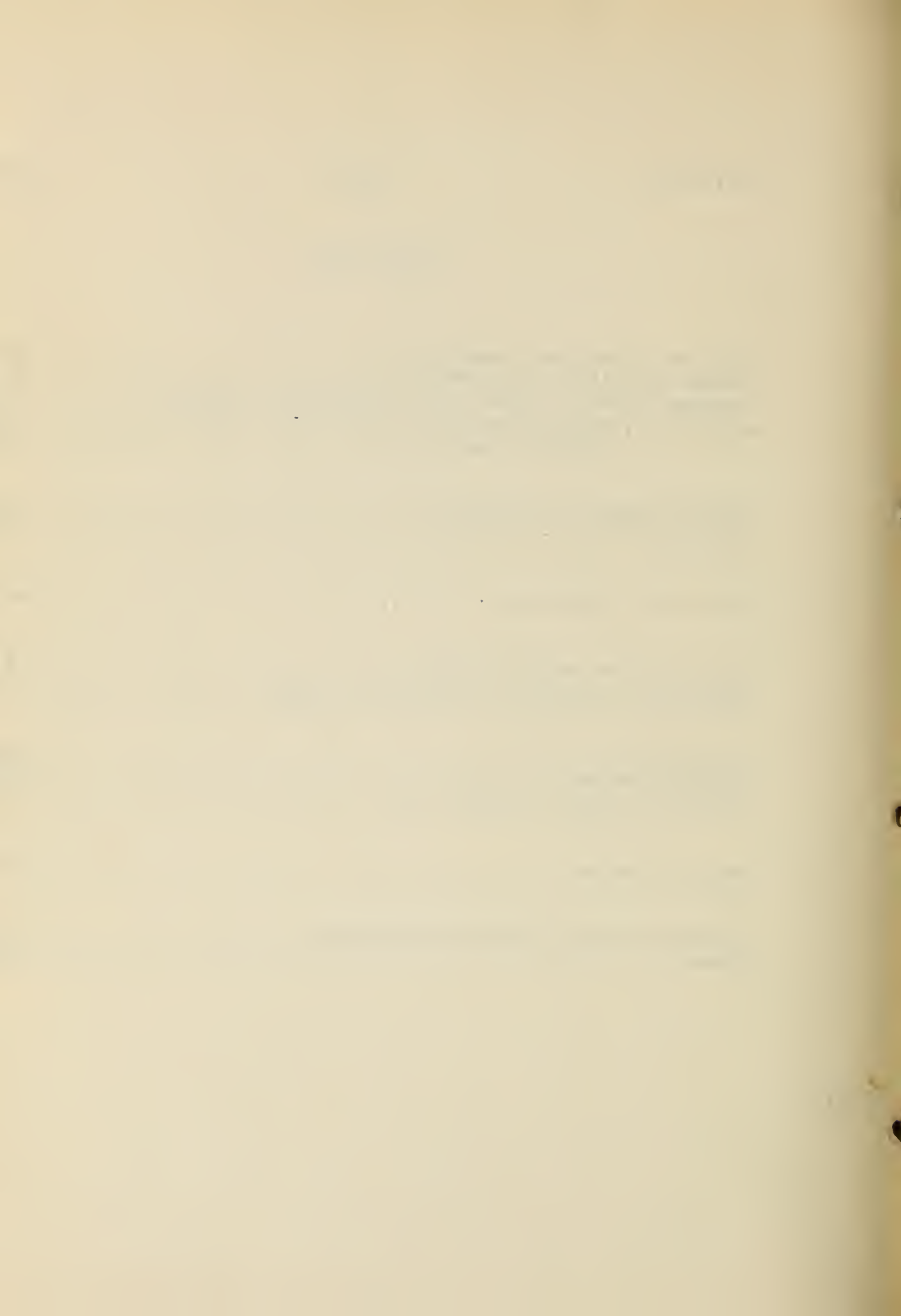
The following table briefly summarizes a report made by Mr. Bean on some of the results secured in his cow-testing in July and August. Not all the herds under test are included, but only those under comparable conditions. These particular figures are given here simply to indicate something of the returns secured by Tieton dairy farmers from their cows. Most of the cows were fed alfalfa hay and had access to some kind of pasture. No grain was fed. In the calculations, alfalfa is valued at \$7. a ton and pasture at from 50 cents to \$1. a month per cow. Skim milk is valued at 25 cents a cwt.

<u>Item</u>	<u>July</u>	<u>August</u>
Number of herds averaged.....	6	10
Number of cows averaged.....	31	55
Milk per cow, pounds.....	785.3	720.2
Butterfat, per cow, pounds.....	29.2	28.2
Butterfat, price per pound.....\$	0.257	\$ 0.26
Value of products per cow:		
Skim milk.....\$	1.57	\$ 1.44
Butterfat.....\$	7.51	\$ 7.33
Total.....\$	9.08	\$ 8.77
Cost of feed, per cow.....\$	3.69	\$ 3.79
Value of products less cost of feed, per cow \$	5.39	\$ 4.98
Return for \$1 invested in feed.....\$	2.47	\$ 2.32



## MISCELLANEOUS.

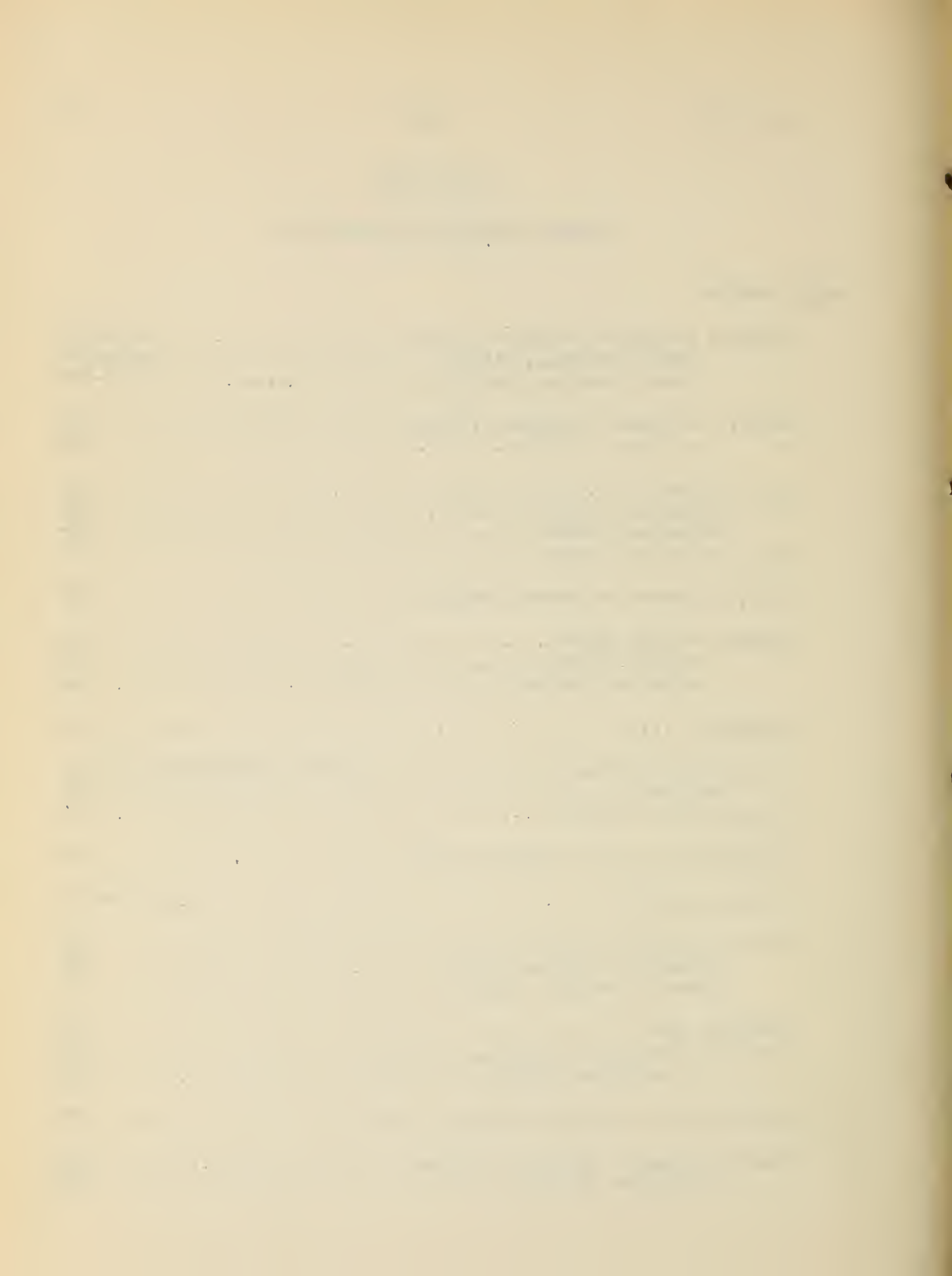
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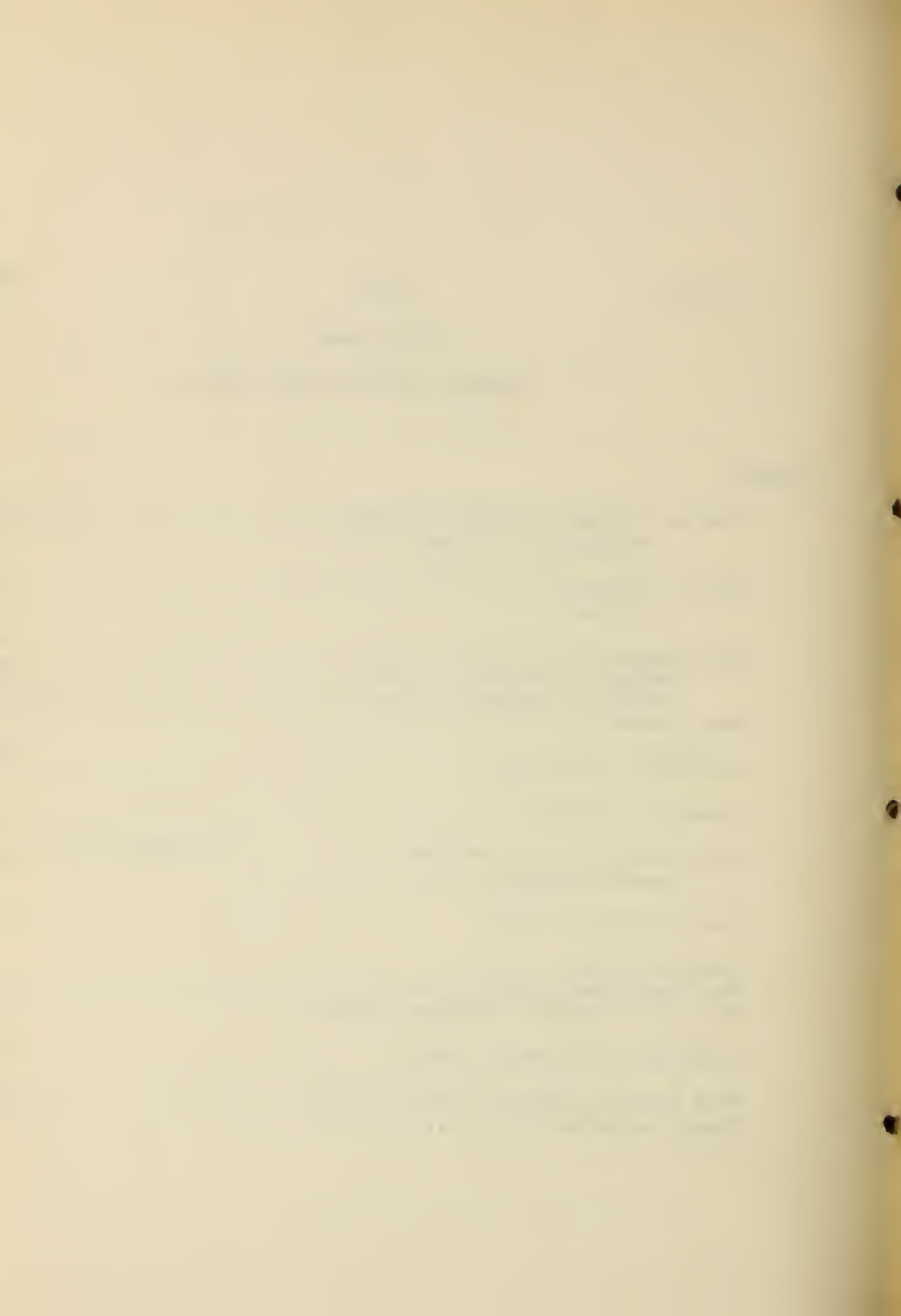
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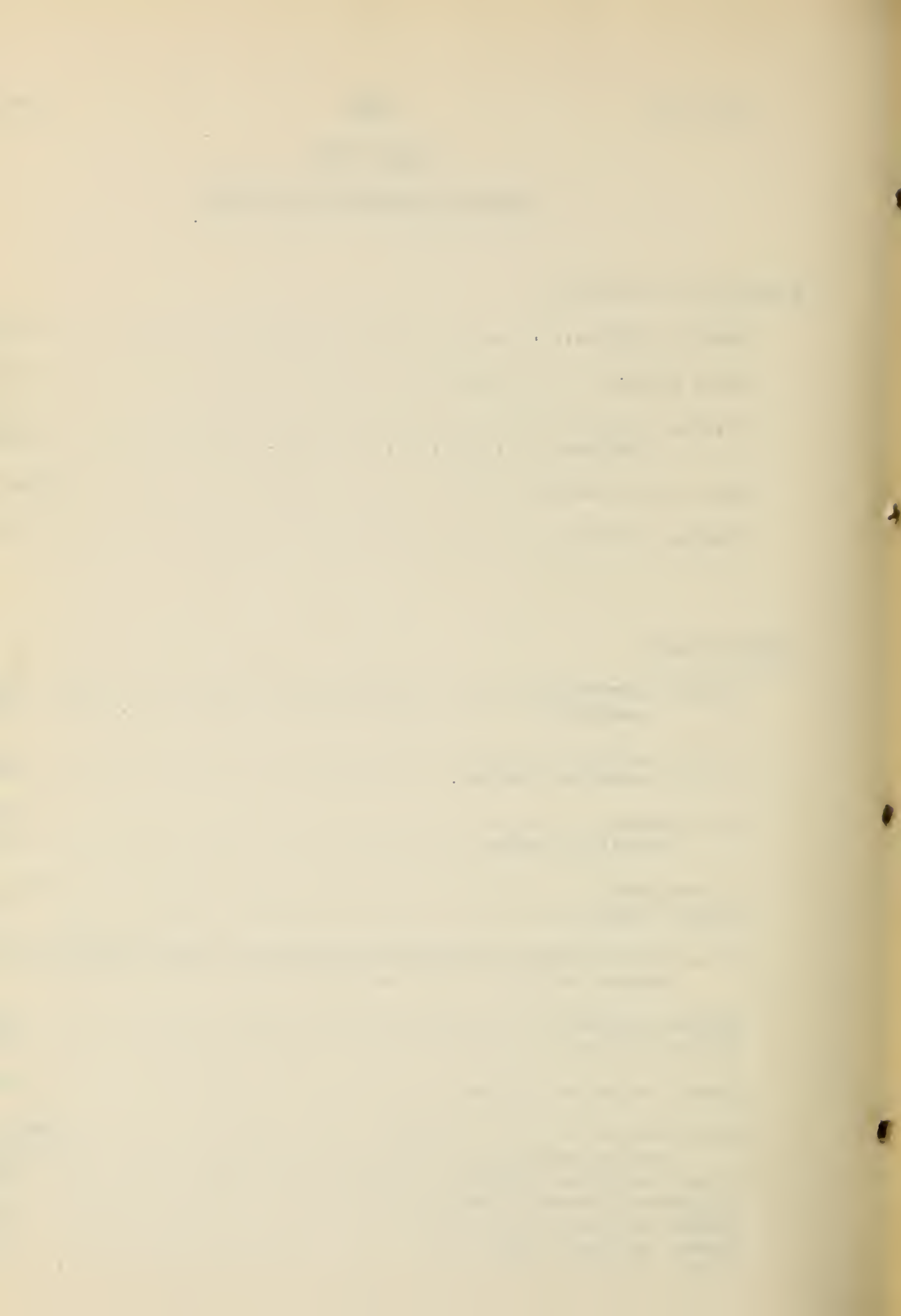
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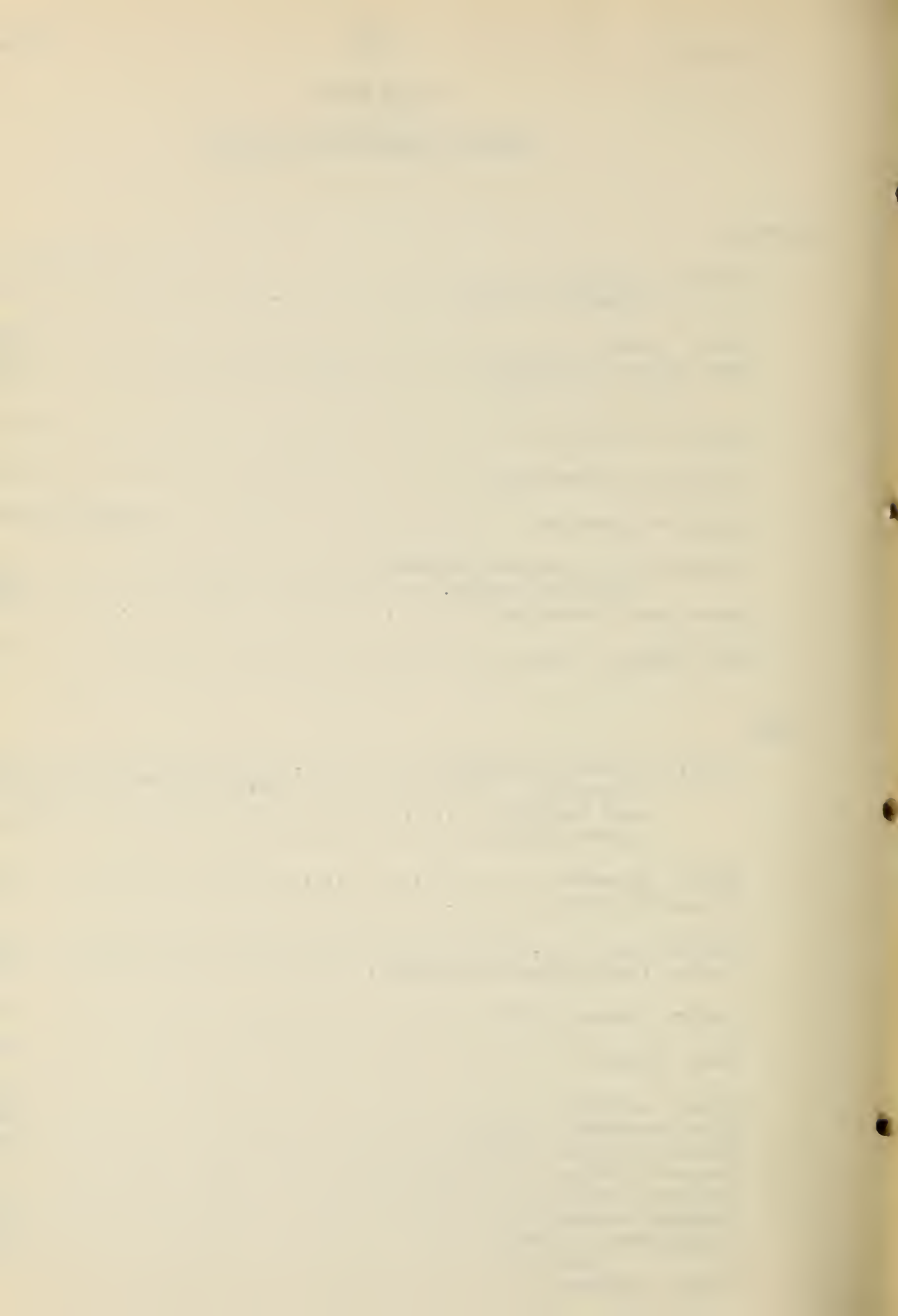
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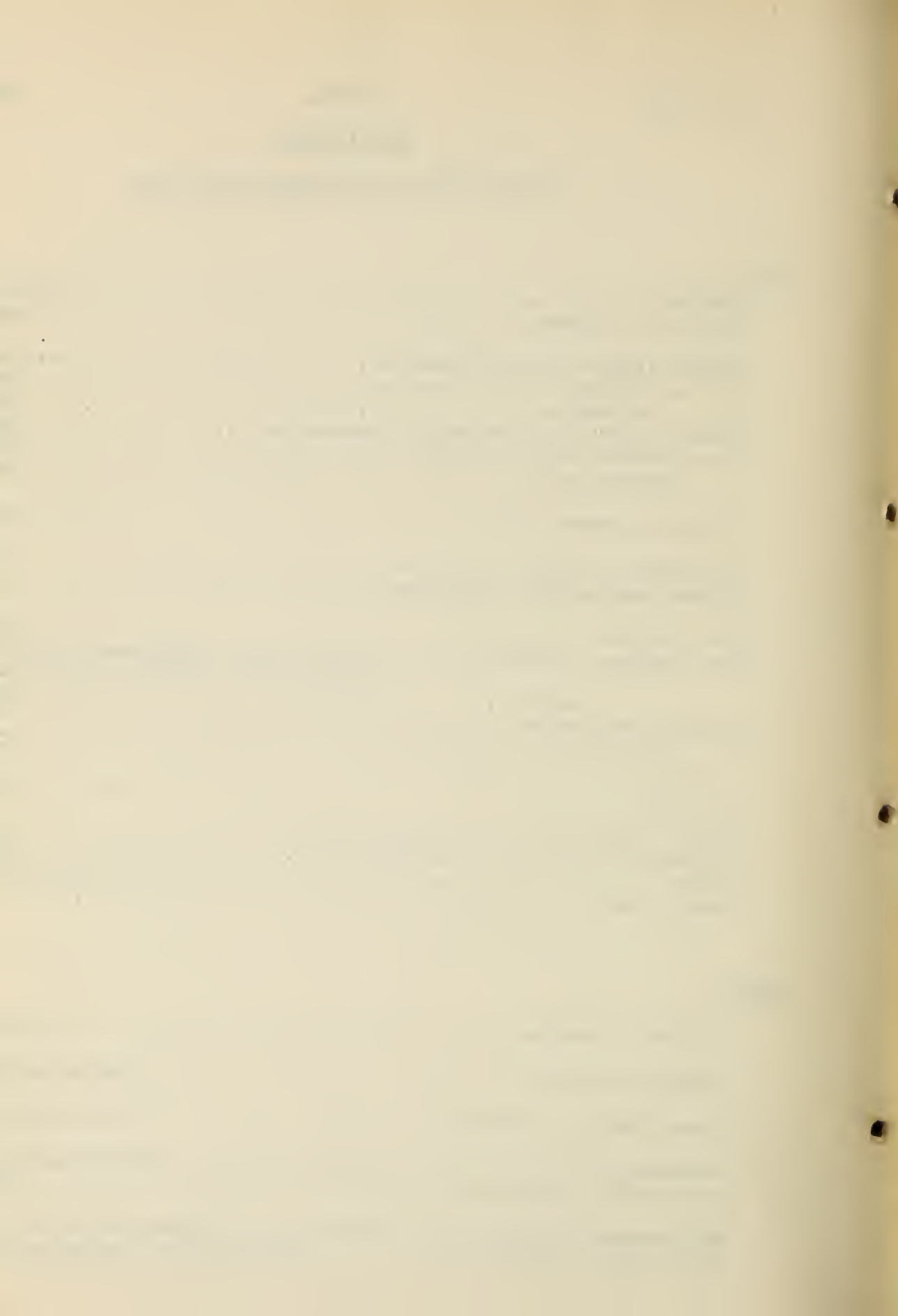
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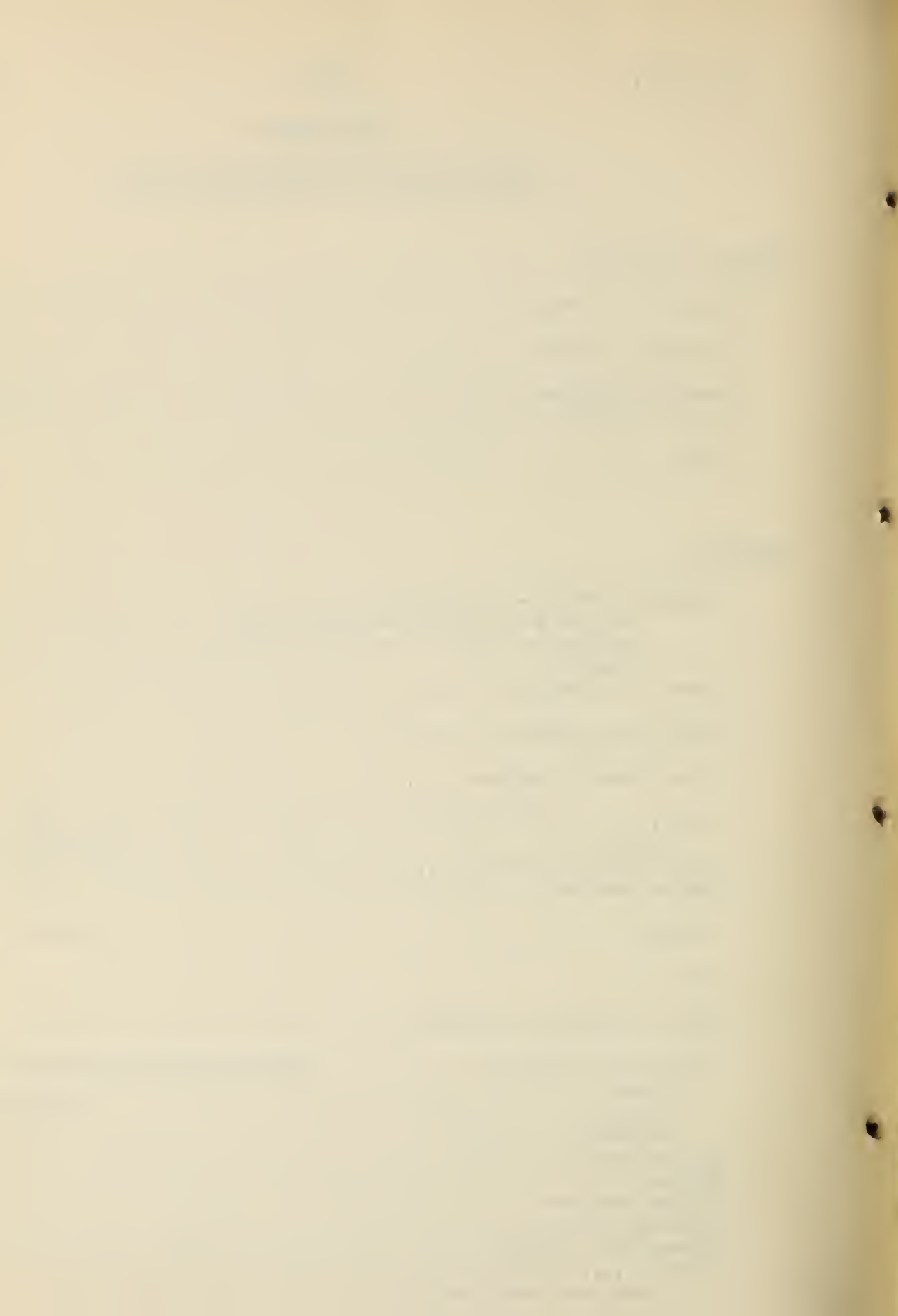
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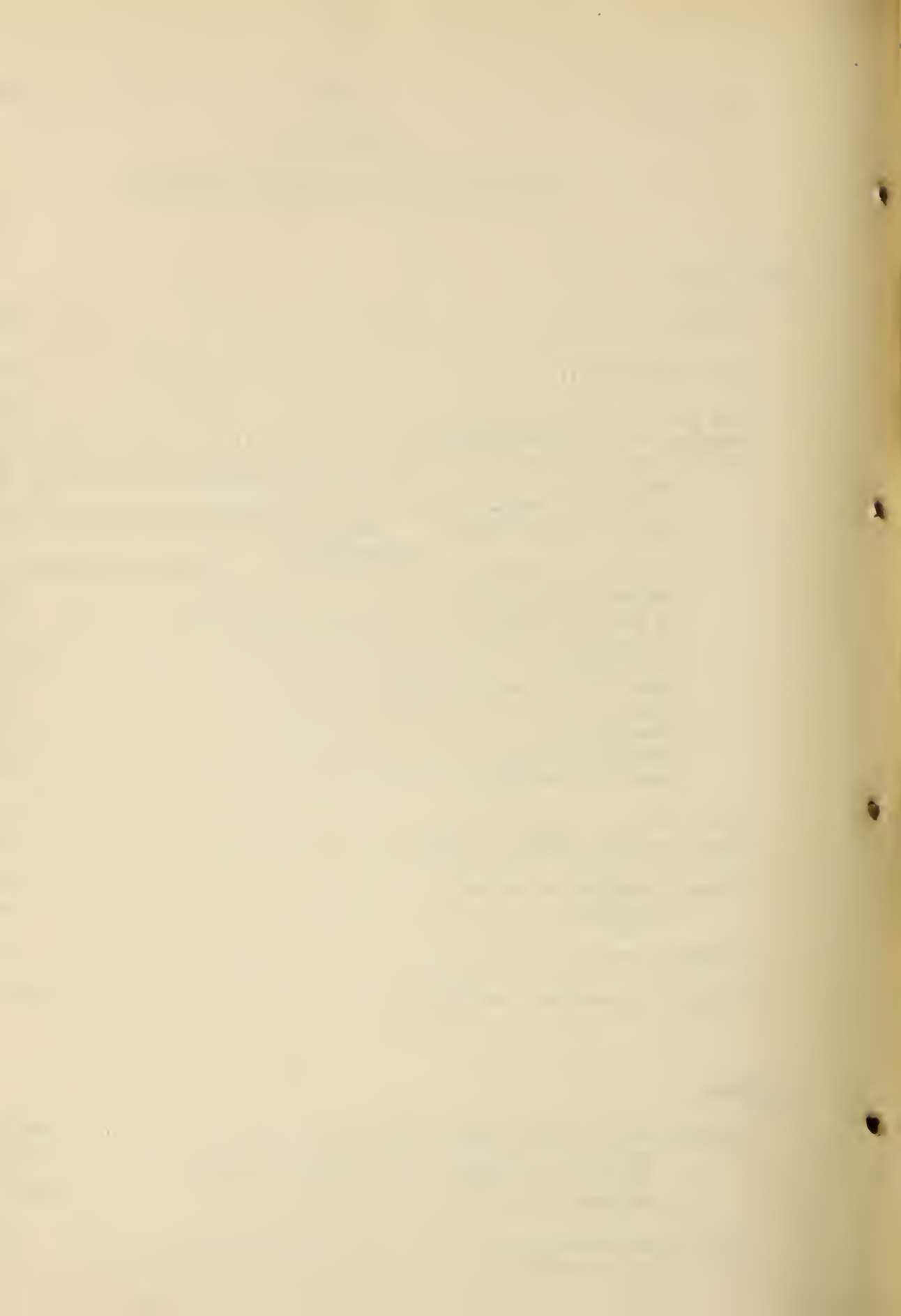
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